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BERKOWITZ ENVELOPE CO., N. Y., NO.

INTELLECTUAL PHILOSOPHY,

FOR SCHOOLS AND COLLEGES;

CONTAINING AN OUTLINE OF THE SCIENCE, WITH AN ABSTRACT
OF ITS HISTORY.

BY J. T. CHAMPLIN, D.D.,
PRESIDENT OF WATERVILLE COLLEGE.



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P R E F A C E .

THIS treatise is called a Text-Book, because it has been purposely thrown into the form adapted to the class-room, rather than that adapted to general reading; and to intimate, at the same time, that it is offered to the public, not so much as a new contribution to the matter of the science, as to its form. However, it will probably be found about as original as the other treatises on the subject, which have appeared since the principles of the science have been so fully developed.

To ignore what has been done by others, on a subject which has attracted the attention and engrossed the thoughts of the most gifted of our race for thousands of years, is simply proof of folly, not of originality. A book on such a subject as this, to be up with the times, must embrace the best views of previous investigators. Could I promise this with regard to the present treatise, I should deem it a much better commendation than any pretence to unusual originality. As it is, I can only say, that I have endeavored to make myself acquainted with the views of the best thinkers on the subject, and have not hesitated to adopt them

when I could present no better of my own. I wish particularly to acknowledge my indebtedness to Sir W. Hamilton, to whom I am under obligations far beyond what is implied in the number of direct quotations from his works, and to whom I might have been under still greater obligations, had not this treatise been virtually completed before the publication of his excellent *Lectures on Metaphysics*.

What is here presented is confessedly but an *outline*; and, as a text-book, it should be only such. Whether we consider the wants of the pupil or those of the teacher, a text-book should be brief; it should contain only the fundamental facts and principles of the science to which it is devoted. The field of science is so extended, that only the most commanding and essential features can be surveyed in a general course of education. Where there is so much that is important, the mind of the pupil should not be encumbered with what is unessential. Something should be left to be supplied by the teacher, and something to be learned by after study. An outline is all that ought to be committed to memory by the pupil, and all that is required by the teacher, as a nucleus around which to gather supplementary and illustrative matter. If the present treatise shall be found adequate to such a purpose, it will fully meet the expectations of the author.

The brief abstract of the history of philosophy, subjoined in an appendix, it is hoped will not be wholly

-PREFACE.

devoid of use. It may at least stimulate the curiosity of the student to know something more of a subject so rich and varied. Both the philosophic aptitude and a correct view of philosophy are best acquired by viewing the subject on many sides, as it has presented itself to different speculators, in different ages and various parts of the world. The abstract contains, of course, but the merest hint of the views of the different philosophers and schools; but I have studied to convey in these hints the leading idea and distinguishing character of each system. Aiming at a mere abstract of the history, I have not always felt bound to consult the original works of the authors, but for the most part have been content to follow such competent guides as Ritter, Tennemann, Stewart, Morrell, Schwegler, Chalybäus, Lewes, Archer Butler, and Hamilton.

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INTELLECTUAL PHILOSOPHY.

INTRODUCTION.

MIND AND MATTER.

1. *The body in one sense a part of self.* — That which each one calls himself embraces more or less in different cases. Considering man as a purely reflective being, *self* includes only the mind; but considering him as a sensitive and active being, it includes the body as well as the mind, since sensation is manifested in the body and action transmitted through it. Though the body is but the special instrument and medium of the mind in communicating with exterior objects, yet, as a portion of matter specially organized and appropriated for that purpose, it becomes so animated and pervaded by the spirit, as to seem a part of self. It is not, however, the whole body of whose affections we are conscious, but only the nerves of sensation. But these are so largely distributed through the body, and especially over its surfaces, that nearly all the external acts and internal processes and functions of life affect them.

2. *The body a part of the human personality.* — As, then, the body is animated by the spirit, the spirit being directly conscious of the affections of the body, while it has no direct consciousness of the affections of

any other form of matter, the body is properly considered, in the most comprehensive sense of the term, as a part of the human personality, though always to be discriminated in thought from the real interior, conscious personality, or self. Indeed, the mind first becomes conscious of itself through the various affections which the body suffers. It is first awakened to consciousness by the impressions made upon our bodily organs from without.

3. *The body the special sphere of the mind.*—The body is thus the special sphere of the mind; it is the *microcosm* of the human spirit, as the universe is the *macrocosm* of the Divine Spirit. The mind does not, in any proper sense, leave the body in the present life. Even in the most discursive thought, it rather draws in, or mimics in its own chambers, what is without, than goes out to it. But intimately associated as mind and matter are in the human being, they are broadly distinguished from each other by the qualities or modes under which they manifest themselves, and by which alone they are known to human intelligence.

4. *Properties of matter and mind respectively.*—The body, like other forms of matter, is known to us only under the various qualities involved in the general notions of Extension and Resistance. It is composed of the same elements as other material objects, only differently compounded and arranged, and presents no higher claim to the possession of intelligence, than the rocks and other earthy substances around us. It is as impossible to conceive that the body thinks, as that these do. The mind, on the contrary, is known to us under an entirely different character. It is not regarded as possessing any of the properties of matter, and hence

is said to be *immaterial*. It manifests itself wholly by its properties, or rather, energies, of *knowing*, *willing*, and *feeling*.

5. *How far the lower phenomena of life depend on mind.* — How far the lower elements of life in man, such as the involuntary motions, and the wonderful processes of circulation and appropriation ever going on in the human system — processes utterly inexplicable by any known mechanical or chemical laws — are dependent on the presence and influence of the mind, is uncertain. But there can be no doubt that all the *conscious* phenomena are wholly dependent upon it. For, although these phenomena disappear at death, this by no means proves that they are proper manifestations of the body itself. It proves nothing more than that the body, in order to be the sphere and instrument of the spirit, must retain a certain integrity of parts, and some approach to its normal state. When it relapses from this condition, as it always does at death,* it becomes an unfit instrument for the spirit, and is therefore abandoned.

6. *The precise relation of body and spirit not known.* — The *precise* relation which the mind holds to the body, we have no means of determining. We know that the mind is somehow conscious of the affections of the body, but whether by simply being present as a *witness* of them, or by itself actually *participating* in

* This is obviously so where death ensues from a wasting disease. But it is no less so in cases of sudden death, which are usually occasioned, either by violence done to some of the central parts of the nervous system — the special seat of the mind, or of the repairing system, without whose action the organization immediately degenerates from its normal condition.

them, may be doubtful : though the latter seems the more consistent and probable hypothesis. But whatever may be the precise process of obtaining knowledge through the organs of the body, it is evident that it is rendered slow, laborious, and defective by such an arrangement. The enclosing the soul in a material body seems an evidence of our low estate. God and other pure intelligences know things at once, by direct intuition.

7. *The antithesis of mind and matter.*— We thus, at the outset, find in our own persons the ever-recurring antithesis of Mind and Matter, and meet at the very threshold of our inquiry into our own nature, that mystery of mysteries, the connection of the Material with the Immortal. It is from this connection that the chief difficulties in mental philosophy arise. The various psychological* systems all turn upon the view which is taken of this connection.

* “Psychological” has the same meaning as *mental*, but is capable of a wider application.

CHAPTER I.

OF MIND IN GENERAL.

SECTION I.

DIFFERENT DESIGNATIONS OF THE GENERAL KNOWING PRINCIPLE.

1. *The mind, soul, intelligence.* — The general conscious principle in man, as an independent substance or existence, is variously denominated the Mind, the Soul, or the Spirit. Of this conscious principle, the most important function is that of intelligence, or knowledge. And hence, this general power of knowing, though really embracing several distinct processes, — higher and lower, — has itself received several distinct names, each intended to designate it as a whole with more or less exactness. These designations of the intelligent principle, all represent the mind as knowing, but with some variation of emphasis as to the particular processes involved.

2. *The intellect.* — The term *Intellect*, in its ordinary acceptation, designates the general knowing principle of the mind more simply and unequivocally, perhaps, than any other term. But even this refers more emphatically to the higher cognitive* powers, than to

* “Cognitive” means *knowing*, and “cognition,” *knowledge*; but the terms admit of a somewhat wider application than their more familiar equivalents.

perception, memory, etc. By some philosophers, indeed, the intellect is regarded as the special faculty or repository of principles. But even in this sense, which is not a very common one, it underlies, if it does not wholly include, the general knowing powers of the mind. For these native principles, or original convictions of the mind, certify and warrant all knowledge. It is not without reason, therefore, that by general usage, treatises on the cognitive powers of man in general are called *Intellectual Philosophies*.

3. *The understanding*.—*Understanding* is another term frequently used to designate the intelligent principle in general. It is so used by Locke. His “Essay on the Human Understanding,” is a treatise on the cognitive powers in general. But recent usage, at least, does not warrant so wide an application of the term. “The term *understanding*,” says Sir W. Hamilton,* “usually and properly denotes only a part—the higher part—of the cognitive faculties, and is then exclusive of sense, imagination, etc.” In other places he calls the understanding “the faculty of relations and comparisons,” which comes to the same thing. Understanding is comprehending, and implies comparison and a perception of relations. It is not the mind considered as receiving and retaining the materials communicated through the senses, but rather as analyzing, comparing, and elaborating these materials.

4. *The reason*.—*Reason*, also, is sometimes made to denote the general intelligent principle of the mind. But by the more prevailing and better usage, it is made to refer more especially, if not wholly, to the very high-

* Note to Reid's Works, p. 514.

est and most ideal form of our intelligence. As discursive, as capable of proceeding from step to step through a proof, it stands opposed to the mere receptivity of sense ; while, as calmly and dispassionately judging of the conclusiveness of proofs, it is equally opposed to the blindness and excitability of feeling and passion. In this form it is the faculty of proofs, and hence the process of proof is called *reasoning*.

5. *Reason intuitive.* — The reason, however, is not simply the faculty of reasoning. Reason, to adopt the distinction of Milton, is not only discursive, but intuitive, also, — intuitive of first principles of truth. Its perception of many truths is instinctive, as being the immediate and irresistible convictions of our rational nature. There must be a last reason in every case. Even the reason cannot give reasons for every thing. It must rest at last upon its own simple convictions. All that it can do, in such cases, is to show its convictions to be reasonable, — that they involve no contradictions among themselves, and that in the nature of the case, there can be no further reason given ; that the convictions upon which it rests are necessarily final, and not susceptible of further analysis and reduction.

6. *Reason transcendental.* — As to the transcendental sense in which the term reason is used, it is of little consequence to the student of a sane philosophy, except as a matter of history. In the philosophy of Kant and his followers, reason is sharply distinguished from the understanding, as the faculty or repository of "ideas," in the Platonic sense. According to this view, while the understanding knows only the finite, the limited, the phenomenal, the reason is conversant about the

infinite, the absolute, the real. As the philosophy of the unconditioned is now generally abandoned by all sound minds, this meaning of reason may well be disregarded.

7. *Consciousness.* — The term *Consciousness*, also, might be named as another designation of the knowing principle in general. Consciousness, however, does not denote knowledge (or the faculty of knowlcdge) simply and purely as such, but knowledge as noted and registered. It is knowledge known, and capable of being recalled. As the grand revealer and register of knowledge, consciousness will receive a fuller treatment in the next chapter.

8. *Different forms and faculties of knowledge.* — But the general power of knowing, as it exhibits itself under several plainly distinguishable forms or processes, is usually distributed among several different faculties. According to the most approved distribution, the intuition, or direct apprehension, of external objects is called Perception,* and of internal states or operations of the mind, Self-Consciousness ; the recalling of perceptions or states of consciousness, is Memory ; the framing of

* Since the time of Reid, the term perception has been appropriated almost exclusively to the apprehension of external objects. But it is sometimes convenient to use the term in a general way, as it was before his time, to denote *any mental apprehension*. In this sense, all mental apprehensions are either direct or indirect perceptions. Direct perceptions, whether by sense or reason, are called, also, *intuitions* ; while indirect perceptions embrace what are commonly called concepts, judgments, reasons, conclusions, etc. *Apperception* (a term now not much used) is the consciousness of any mental representation, as in memory, imagination, etc. ; and if the perception of external objects be held to be representative, it includes this also. *Sensation* is properly the objective or outward side of perception by the senses, though by Locke it is made to include the whole process of perception.

individualized or concrete images, is Imagination; and of generalized or abstract notions, Conception; the connecting in thought of two concepts is Judgment; while the connecting of pairs of judgments successively, so as to necessitate a third judgment in each case, is Reasoning.

SECTION II.

INTELLIGENCE DISTINGUISHED FROM OTHER MENTAL PHENOMENA.

1. *Different classes of mental phenomena.*—Besides knowing, we also *feel* and *will*. We are susceptible of the feelings of hunger, pain, weariness, hope, fear, joy, gratitude, and the various feelings which make up the sum of human happiness and misery. We are capable, also, of deliberating, choosing, and resolving. These phenomena are evidently quite distinct in character from the phenomena of knowing, and yet they are all united in a common consciousness. They are the concomitants of knowledge — its antecedents, conditions, effects, consequents, etc. — but not knowledge itself. They are all states of consciousness, but not properly cognitions.

2. *Different classes of feelings.*— Of our Feelings, some are so localized in different parts and organs of the body, that they may be called *organic* or *corporeal* feelings. Of this sort is the uneasy feeling in the stomach occasioned by the want of food; also, the various aches and pains in the internal organs, or at the surface of the body, caused by derangement, disorganization, or pressure. Another class of feelings, depending rather upon certain mental perceptions or thoughts, than upon local, physical causes, may be

called *intellectual* or *moral* feelings,— they are commonly denominated Sentiments. They are such as: *love*, which is awakened by the perception or thought of an endeared object; *desire*, which is awakened by the perception or thought of any thing which we suppose will gratify a want; *gratitude*, awakened by favors received; *the sense of beauty or deformity*, awakened by the presence or thought of comely or uncomely objects or acts; and *the sense of right and wrong*, awakened by the perception or recollection of human conduct, as according to, or contrary to, right relations.

3. *Pleasure and pain, good and evil.*— The feelings excited by physical causes, constitute physical pleasure and pain; while those excited by our thoughts, constitute the more purely intellectual pleasures and pains. That which produces pleasure of either kind, is called *good*, and that which produces pain, *evil*,— yet, good and evil of different orders, according to the character of the pleasure or pain produced.

4. *Designations and character of the different feelings.*— The feelings, considered in their most general character, as modifications of our sentient nature, are called Affections; * considered as mental excitements or movements, they are called Emotions; when violent or excessive excitements, Passions; and when considered as appetences towards different objects, or revulsions from them, they are called Propensities, or Desires and Aversions. But however denominated, and wherever conceived as having their seat, even if distinctly local-

* Not in the limited sense of “kindly interest in some person or thing,” in which the term is sometimes used in treatises on morals; but in the more generic sense of the word, as designating *any simple impression or modification of our sentient nature*.

ized in particular organs of the body, they are all, evidently, real mental affections, since they are as unlike any mere affections or qualities of matter, as are the phenomena of intelligence. And yet they are not knowledge, though often the conditions of knowledge, as is the case with the special feelings in *sensation*, which is the condition to perception. The organic feelings, also, as localized in different parts and organs of the body, disclose a knowledge of their place,—in the consciousness we have of the affection, we become conscious of its locality.

5. *The moral and æsthetic feelings.*—The moral sentiments are only a peculiar class of feelings consequent upon moral perceptions. Thus, Bishop Butler* speaks of the moral faculty, as either “a perception of the understanding, or a sentiment of the heart, or what seems the truth, *as including both.*” The moral sentiments are merely different forms and degrees of the feelings of approbation and disapprobation, in consequence of conduct or character which is perceived to be in accordance with, or contrary to, right relations. And the same may be said of the æsthetic feelings, or the emotions of Taste. The pleasures and disgusts of taste are mere emotions, immediately consequent upon the perception by the senses, or the thought of, objects of a certain character as to their proportions and parts, or their relations, surroundings, etc. There can be no æsthetic feelings, without a previous perception or thought of objects of an æsthetic character, or under æsthetic relations.

6. *The will.*—The Will is the third grand phase of the mind revealed to us in consciousness. The volun-

* Dissertation on Virtue.

tary phenomena are equally distinct from the phenomena of feeling and the phenomena of knowing. Deliberation, indeed, is but an intellectual comparison of objects or thoughts ; but the preferring one to another, as more desirable, and, above all, the resolving to act thus and thus in consequence, are operations quite distinct from any mere acts of knowledge. As to the extent of the independent power of the will, whether it be self-determining, or determined, in its action, this question belongs rather to the more general science of *mental philosophy*, and need not be discussed here. I may merely say, in passing, that this is a subject upon which speculation has thrown, and seems destined to throw, but little light. Practically, we feel ourselves to be free, though we cannot, it may be, clearly make it out in thought. There is ground enough here for conviction, for faith, though we can never, perhaps, attain to positive knowledge on the subject.

7. *The mode of action of the will not to be considered.* — Neither have I any thing to do with the question how the will carries out its determinations through the body,— how the mind affects the body or its nervous system. This question, with the kindred one, how external objects affect the mind through the body, belongs to physiology, if to any science. Various conjectures or assumptions have been made, by those who have investigated the physical side of our mental manifestations, to account alike for each of these reverse processes ; from that of a flow of animal spirits through or along the nerves, to that of a development in the nervous system of some general nervous agent, as electricity, or magnetism, which is now, perhaps, the prevailing assumption among this class of philosophers.

But none of these hypotheses have been established, or even rendered probable, on scientific grounds.*

8. *The will the deepest principle of the mind.*—These, then, are the three great classes of mental manifestations, the phenomena of *Knowing*, the phenomena of *Feeling*, and the phenomena of *Willing*, of which the latter seem to proceed from the deepest and most central principle in our nature. The will, more than any thing else, seems to constitute the real self. If it be free (and unless it is, there can be no morality, and no necessity even for the assumption of a spiritual nature † in us and above us), then it controls the movements of the mind, and is the primal power in our nature. The will carries the whole mind with it, and all our powers wait to obey its behests.

* Whoever wishes to follow out such speculations, which have thus far, at least, proved rather curious than profitable, will find them ably and yet cautiously handled by Dr. Holland, in his *Chapters on Mental Physiology*.

† See Hamilton's *Discussions on Philosophy*, p. 298.

CHAPTER II.

CONSCIOUSNESS.

SECTION I.

NATURE OF CONSCIOUSNESS.

1. *Knowledge and consciousness virtually the same.*— We cannot properly be said to know any thing which we do not *note*, mark, observe, or attend to in some degree. And when we do thus note or attend to the objects before our minds, one thought becomes associated with another, so that they are *known together*, and hence may be recalled one by the other. Hence, all real knowledge must be conscious knowledge; i.e., knowledge standing in relation to other knowledge, and consequently capable of being recalled. Thus knowledge and consciousness, if not exactly the same, are yet equivalent, since the process of knowing (i.e., noting) objects, leads to associated knowledge, or consciousness. Hence, knowing, and knowing that we know, are virtually the same. It is by and in noting objects, and only thus, that the mind becomes conscious of them.

2. *Sub-knowledge and sub-consciousness.*— But are there not also isolated thoughts? Can there be no such thing as a knowledge wholly fugitive and transitory? In the nature of things, we should suppose that we might be aware of many things as they pass, without noting them sufficiently to render them objects of

conscious knowledge. We infer the same also from many of our acts, which seem to imply an apprehension of things, of which yet we have no consciousness. But we never can know, except by inference, whether there be any such fugitive thoughts or not; for, not being associated, they cannot be recalled. However, if there be such mental states of wakefulness to what is passing, as there seems to be every reason for believing there are, which never rise to conscious knowledge, they can be nothing else than momentary apprehensions, by the same general principle of intelligence which apprehends permanent knowledge. If they cannot be properly called states of consciousness, it is only because they are not properly knowledge. They seem to constitute a sort of sub-knowledge and sub-consciousness, producing the same results as knowledge, but never fully realized.

3. *Instances of such knowledge.*— Such states of sub-consciousness seem to be implied especially in the performance of processes usually ascribed to the effects of habit; such as reading or repeating a familiar piece of composition, singing or playing a familiar tune, taking a familiar walk, and the like. Such operations, when first performed, are merely a combination of external signs, representing the like combination of mental perceptions, of which we are conscious. But in time we come to perform them without any conscious succession of thoughts. Hamilton, following Leibnitz, regards such operations as the result of what he calls *latent mental modifications*; i.e., a blind action of the mind, not only not conscious, but not even intelligent. Others have regarded such processes as wholly automatic in their nature,— as having, by repetition,

become so connected in their several parts, that after the initial mental impulse is given, one movement follows another by virtue of the local nervous irritability of the system. There are some things, doubtless, which seem to favor this last hypothesis especially ; but it seems more rational to suppose, with Stewart and many others, that even the most familiar acts are the result of intelligent states of the mind, but states so naturally and rapidly succeeding each other, as not to be dwelt upon sufficiently to be capable of being recalled.

4. *The usual antecedents of knowledge do not always awaken any mental apprehension.*— There are doubtless many cases, where the usual antecedents of knowledge exist without awakening in us any mental apprehension of any kind, whether momentary or permanent. It is often so, undoubtedly, in sleep, and probably also in our waking hours, when the mind is very much absorbed in other things. In such cases, sights and sounds, and other objects of sense, seem to make no impression upon us. Yet, even here, we cannot, perhaps, be quite certain that no momentary impression is made upon the mind. Indeed, we sometimes recall, afterwards, an impression, as of the striking of a clock, which awakened no attention at the time. In such a case, of course, there must have been an impression received, and it must have been associated, too, at least with the thought through which it is recalled ; or else, the attention being relieved soon after the impression was made, and while it still continues in its effects,* it is now first recog-

* In the case of sight, we learn, as observed by Berkeley, that the impression remains so as to be distinctly cognizable for a time after the cause is removed, by the simple experiment of moving a burning coal or candle rapidly round in a circle, when an entire ring of light is seen. This, of

nized. Still, it scarcely admits of a doubt, that there are many cases where the usual antecedents of knowledge exist without awakening in us any mental apprehension at all.

5. *Consciousness not a distinct faculty.*— Consciousness, then, is not a distinct faculty, as represented by Reid and many other philosophers, engaged in witnessing the operations of the other faculties, but is the general knowing principle, contemplating and assured of its own acts. A machine works blindly, but the mind knows as it works. Knowing, willing, and feeling become distinct acts, only as they are consciously so. They are all alike realized, and can be realized, only in and through consciousness. Consciousness is knowing that we will and feel, as well as knowing that we know, and hence embraces all knowledge,—at least, all distinct knowledge. It extends to external acts of perception, as well as to the internal acts of the mind: but in speaking of our knowledge of external objects, it is more proper to say that we perceive them, than that we are conscious of them, since perception denotes the outward side of this form of consciousness.

6. *Consciousness embraces all the materials which the mind has to work with.*— As, therefore, consciousness embraces all the cognitive acts of the mind, the facts of perception, memory, imagination, etc., may all be taken together as the *facts of consciousness*. Indeed, as a general name for the cognitive principle on its subjective* side, and the general medium in which all

course, would not be the case, did not the impression made by the light, at each point, remain after it had passed on to other points. So, also, we speak of a sound continuing to “ring in the ear.”

* Psychologically, the *subject* is the mind, and hence *subjective* denotes something pertaining to the mind; or, as this is internal relatively to the

knowledges become known, consciousness may be said to embrace, also, those *primary truths*, or *intuitions*, of the *Reason*, or *Intellect*, as they are variously denominated, which lie at the foundation of all knowledge. Hence consciousness, in its most general sense, embraces all the facts and truths, and furnishes all the materials, which the mind has to work with. These primitive materials may be combined into various fantastic forms by the imagination, and innumerable and far-reaching deductions may be drawn from them by the powers of the understanding, and this is the extent to which the human mind can go. The facts and truths of consciousness, then, and inductions and deductions from them, constitute all the knowledge of which we are capable.

SECTION II.

FACTS OF CONSCIOUSNESS.

1. *Importance of including all the facts.*—As consciousness embraces all the elements of knowledge, it becomes the most important question in philosophy, to ascertain what these elements are. Any mistake here affects all that follows, and vitiates the whole system. We want here, as in courts of justice, “the truth, the whole truth, and nothing but the truth.” Nothing should be rejected which is found in consciousness, and nothing admitted which is not found there. The authority of consciousness is to be taken as ultimate, and its testimony as final. We are merely to establish

object, which is external, subjective often denotes, as here, what pertains to the more internal view of the mind itself.

the *fact* of the existence of an element in consciousness, not to show its *possibility*; the sole question being *what is actually found in consciousness?* Let us now attend to this question, as far as the bare facts revealed in the simple operation of the different faculties are concerned.

2. *Facts revealed in perception.*—I begin with Perception. There can be no doubt that, in our mature experience, we are conscious of two distinct elements in every act of perception,—the subject perceiving, and the object perceived; a self and a not-self. In the perception of a tree, for instance, we are as clearly conscious of an object perceived different from self, as we are of a perceiving self. And the same must hold of first perceptions. Even if, at first, we apprehend nothing in perception beyond an affection of the organ, still this is a not-self in relation to the knowing principle. Besides, in the experience of *resistance*, which is incident to our power of changing place, and hence almost necessarily connected with the exercise of the sense of touch, we, from the first, *directly* apprehend external objects, at least through this sense.

3. *The two elements in perception.*—In every act of perception, then, we have given, in consciousness, a self and a not-self, brought face to face, but yet entirely distinct from each other. We never for a moment, imagine ourselves and the object perceived to be the same. Whatever theorists may assert as to the identity of matter and mind, there is certainly nothing of the kind revealed in consciousness. Nor does the object perceived appear to be a mere thought or representative image in the mind. The mind not only discriminates perceived objects from itself, but gives them

an existence entirely independent of, and foreign to, its own. This is the case not merely with the common man, but with the philosopher. Whatever one's theory in the case may be, he never can get rid of the conviction that the objects of perception are distinct from, and exterior to, himself.

4. *The facts revealed in memory.* — In Memory, on the contrary, there is no consciousness of an external object as actually present to sense. We simply picture or represent to ourselves by an act of the mind, the object remembered, and contemplate this representation alone. We reproduce the object in imagination, and recognize the representation as the undoubted counterpart of what we once perceived and what may still exist, but out of the sphere of sense. In memory, therefore, consciousness directly reveals nothing out of the mind itself. We have simply the mind representing something past, and the representation thus formed for its object, — the mind thinking and its thought.* The external object, though clearly recognized in the representation, is not directly contemplated as present.

5. *The facts revealed in imagination.* — In an act of Imagination, also, we are conscious only of the thinking subject and its thought. The elements of which the figment of the imagination is composed, may be recognized as the representatives of objects formerly perceived, but these objects are not supposed to be present, and the image as a whole is regarded as a mere phantom conjured up by the mind, and having no existence

* In the most general sense of the term, any act of consciousness is a thought, though, in a more restricted sense, only the acts of the understanding and the reason are considered such.

out of it. Thus, while in perception we are conscious of a subject knowing and an object known distinct from self, in memory and imagination, we are conscious of only the mind and its representation—in the one case, as a representation of something real, and in the other, as of something wholly fantastic.

6. *The facts in other mental operations.*—So, too, in all other mental operations, we are conscious of only the mind and its thought. In Intuition* and Conception, the only object before the mind is a general truth or abstract notion. In Judgment, the only object before the mind is concepts; as judgments are the only object before it in Reasoning. In Feeling, the locality of the feeling or the thought which excites it, is the object which the mind contemplates; while in Willing, the conception of the act to be performed is the object which it has in view

SECTION III.

TRUTHS OF CONSCIOUSNESS.

Nature of the truths of consciousness.—The *facts* of consciousness, considered in the preceding section, are barely what is explicitly involved in the various cognitions accompanying the action of the several powers of the mind. The *truths* of consciousness, also, are brought out by experience, but do not seem to be actually included † in it. They are found in consciousness,

**Intuition*, in its most general sense, is a direct beholding of any object or truth, by a single indivisible act of the mind. Intuitive acts of reason are simple acts, as opposed to the discursive acts of reason, which consist of a succession of steps. As a simple, direct, face-to-face cognition, the perception of an external object by sense is also an intuition,—but only a *sensitive* or *empirical intuition*; while the former are *rational intuitions*.

† If not included in experience, of course, they cannot be generated by

and if they are not mere secondary notions, formed by abstraction and generalization from experience, they rest upon the same authority as the facts of consciousness, the reliability and truthfulness of the nature which God has given us. If they are *original* convictions they are from God, and may certainly be trusted. As the human mind is limited, thought is necessarily limited, and these primary principles or beliefs, seem to be the *limiting laws or conditions of thought* imposed by our Creator. They naturally fall into the three following classes:—

I. *Ideas brought out in connection with perception*, such as: the ideas of Space, Time, Substance, and Causation.

1. *Our idea of space not derived from motion*.—To begin with the first of these ideas; it is clear that Space is not directly perceived by the senses, as it has no qualities appreciable by sense. It has neither flavor, savor, sound, color, nor resistance. If it be reached in any way through the action of our organism, it must be through our power of changing place. But change of place is change in space, and hence can be understood only as we already have an idea of space. If we have any idea of change of place, or motion, it must be because we already have an idea of space, as having parts out of parts, and hence admitting of motion. And if we can have an idea of motion, only as we have an idea of space, of course, we do not derive our idea of space from our experience of motion.

reflection upon experience; since this is merely scrutinizing experience, and no scrutiny can find what is not there. The great error of Locke, and others of his school, consists in making these ideas actual generalizations from experience, because they spring up in connection with it.

2. *The here and the there are added by the mind.*—When we say that we see objects here and there, in different places, and, by the use of our limbs move here and there, all that we see, of course, is the objects, and all that we experience is certain exertions of the muscles; the *here* and the *there* are added by the mind. The truth seems to be, that in all our perceptions of objects, by the very constitution of our minds, we necessarily conceive of them as existing in space. All our sensations, from the first, seem to reveal themselves as out of each other, thus supplying extension to our own bodies first, and then to objects* exterior to our bodies. Thus objects become to us extended, and we believe them to be really so; but, though they are, they would not appear so unless the mind so conceived them.

3. *Our idea of space transcends all possible experience.*—But the most conclusive proof that our idea of space is not a generalization from experience, is, that it transcends all possible experience. We may, perhaps, through the mutual outness of our sensations, be said to experience space, under the limited relations of extension, but we know nothing of space, and can know nothing of it, through any form of experience, except in finite relations. And as experience warrants only as far as it goes, and we can generalize nothing more from experience than is in it, our notion of space, if derived from this source, should be only finite. But in fact,

* This is not saying, of course, that objects have no extension except that conferred on them by the mind in thinking of them. Rather, that we necessarily think of objects as occupying space, is an evidence that they actually do; since, that we are made to think so, is a strong presumption, at least, that it is so.

our notion of space is far from being confined to its finite relations, of which we have obtained an actual knowledge through experience. We conceive the finite space, of which we have had experience, as only a part, and a very small part, of an infinite space stretching out illimitably on all sides. We can place no bounds to space even in imagination. It overleaps any outposts of creation which we can conceive. Whence do we derive such a notion, if it be not a necessary conception?

4. *The same reasoning applicable to our idea of time.* — Precisely the same reasoning applies to our notion of Time, and with the same result. We cannot perceive time by the senses, nor do we derive it from succession ; since the idea of succession presupposes the idea of time. In our experience, then, the *now* and the *then* must be added by the mind, just as we have seen that the *here* and the *there* are. We necessarily conceive of time, too, as without limit—as proceeding from everlasting to everlasting. Hence it appears that space and time are *necessary conditions of thought*. By the very constitution of our minds, whatever we think of, we necessarily think of as existing in space and time. We can think of space and time devoid of objects, but not of objects out of space and time.

5. *Our idea of substance.*— So, too, we cannot directly perceive Substance, whether material or immaterial. In the perception of external objects, as well as in the consciousness of ourselves, we directly apprehend only qualities and states or acts. But it is impossible for us to think of physical qualities or mental states as existing alone, or in and for themselves. We are compelled to think of them as belonging to some substrata-

tum, or substantive existence. Material qualities and mental affections are both conceived as *relative*, as necessarily implying a something to which they belong. Thus, the assumption of a substantive existence for ourselves, as well as for material objects, is forced upon us by the necessities of thought — by the necessary conceptions with which our Creator has endowed us.

6. *How the notion of causation arises.* — Again, in observing the changes which are constantly going on around us, we find there springs up within us the idea of Causation. We say, this caused that event or change, and that caused another, and so on. And by causation, be it observed, we mean something more than simple antecedency ; we mean that every change is effected by some *power*. All changes seem to us to require power to effect them. But we have no direct perception of the exertion of this power ; neither the power nor its action is an object of perception. Hence Hume, and other sceptics, have denied the validity of the notion, treating all idea of causation, beyond that of simple antecedency, as a wholly unwarranted notion, due entirely to habit.

7. *Is not derived from experience.* — To save this idea, therefore, so important in its moral as well as its metaphysical bearings, it becomes necessary to show, either that it is a legitimate product of experience, or that it is a native and necessary conception. Each has been attempted by different philosophers. Those who regard the idea as empirical, i.e., as arising from experience, generally derive it from our experience of causation in effecting changes by our wills. We undoubtedly are conscious of various acts of the will and of various movements of our organs consequent upon

these acts. These antecedent acts and consequent movements we may be said to *experience*, but not, certainly, the action itself of the will upon the organs. As these internal acts and external movements uniformly follow each other, we *infer* their connection on the most satisfactory grounds, but cannot properly be said to *experience* it. The mode of action of the will on the nerves is not a matter of consciousness, and hence not a matter of experience. Here, as in physical causation, we are actually conscious of only antecedents and consequents, not of the causal action itself. We have no doubt that there is a real causal action in both cases; and as we are directly conscious of an exertion of the will in the case of voluntary causation, we can have no doubt that this is the real causal impulse which acts upon the organs. But this is an inference, not an experience, and hence not a direct knowledge or idea.

8. *It is a necessary conception.*—Our idea of causation, then, must be one called out by experience, though not properly included in it. From the very make of our mental constitution, we can conceive no change as taking place without an adequate cause. We cannot think change as mere caprice, nor events as isolated from each other. They are all linked together in our minds as causes and effects. The notion is not, simply, that this and that change, which we have witnessed, must have had a cause, but that *every change must*. The notion is universal and all-pervading in its character, and just as much so upon limited as upon the most enlarged experience.

9. *Causation not necessarily in the antecedent.*—But as, in the case of physical causation, we have no

perception of any action whatever in the antecedent, and no reason for considering it the cause except that it is the antecedent, it follows that there is no scientific necessity for considering the causal power as actually residing in the antecedent. The nature of causal action not being known, we can never perceive any particular adaptedness in one object more than in another to produce a given result, and hence can have no reason for considering the particular antecedent as the cause, other than the bare fact of its antecedency. Indeed, it is difficult, if not impossible, for us to conceive, or believe, that one form of matter has any actual power of its own over another form of matter, so as, of itself, to effect any change in it.

10. *The First Cause.*—This doctrine of causation leads directly back to a First Cause. A succession of finite beings or events cannot reach back through and fill up the antecedent eternity. Such a series must have a starting-point—there must have been a beginning to it. And such a beginning for man, and many other races of animals, as well as plants, is distinctly attested by geological science, to say nothing of Revelation. At the head of all causes stands the First Cause. Nor is our consciousness satisfied in making God simply a first cause. We feel that he is now, and ever has been, the grand Efficient Cause in producing the changes which are constantly taking place. We cannot conceive that the power of causation resides in matter, and only in a limited degree in the human will. Our idea of causation finds its complete exemplification, and attains its absolute universality, only in God.

II. *Primary beliefs brought out in connection with acts of the memory,* such as our Beliefs of the actual past

Existence of what is represented in memory, and of our Personal Identity.

1. *In memory we are not directly conscious of the thing itself.*— As already observed, in an act of memory there is no consciousness of the presence within the sphere of sense of the object remembered, but only of its mental representation, or the thought of it. Indeed, the object itself is distinctly regarded as absent from sense. Still, we as firmly believe in the existence of the object at the time to which our memory refers it, as we do in the present existence of an object now perceived. The recollection, or thought, of a past perception, has all the authority with us of a present perception.

2. *But the recollection is perfectly reliable.*— Now, as we have in memory only a representative thought of the object, how are we to know that this thought is not delusive? To this we can only reply, that we are so constituted as to take the *recollection* of any thing as conclusive evidence of its having been once perceived by us, and of its actual existence when and as represented in memory. We are determined to this conclusion by our very nature, and cannot believe otherwise. We can no more doubt the truth of what we clearly remember, than we can the perceptions of our senses or the conclusions of our reason. The firmness and universality of our belief in the truthfulness of memory are evinced by the readiness with which testimony is everywhere received, both in the common relations and intercourse of life, and in courts of justice. By this important law of our nature, knowledge is perpetuated and rendered as valid and available in after recollection as in original perception.

3. *The same is true of our belief in our personal identity.*— So, too, of our Personal Identity, or sameness at different periods of time. Our bodies change, and our thoughts change, but consciousness, the knowing principle—our real self—seems always the same. I know myself only as a conscious being, and were I continuously conscious, I should continually have the consciousness of my sameness. But I am not continuously conscious, and if I were, past states of consciousness could be known only through the memory. Hence our belief in our personal identity must rest at last upon memory. I am now conscious, and I remember of having been conscious yesterday, the day before, last year, etc., and I have no doubt that the very *I* of to-day was conscious on these past occasions, as represented in memory. I cannot help trusting in the veracity of memory here, as in other cases. As memory predicates a succession of conscious states of the same *I*, I cannot doubt that they actually belong to the same being, myself. If *I* am conscious (or remember) to-day, that *I* was conscious yesterday, I must believe that there has been a continuance of the same personality from one conscious state to the other.

III. *First principles assumed in reasoning*, such as the Logical and Mathematical Axioms.

1. *What some of these axioms are.*— As these axioms will come up for consideration again, I merely name the most important of them here. The Logical Axioms are such as these:—"No object can, at the same time, both be and not be."—"Every proposition must be either true or false."—"Every proposition or its contradictory must be true."—"Whatever may be truly affirmed of a whole, may be truly affirmed of

each and all of its parts." — Of the like nature are the Mathematical Axioms, that "the whole is equal to the sum of its parts," that "two straight lines cannot enclose a space," etc. These and the like axioms of reasoning, though universally accepted as soon as understood, can never be actually verified by experience, and certainly, are not derived from experiences, since they are conceived to be of universal application. They are, therefore, original judgments — truths self-evident to us, neither requiring nor admitting any proof.

2. *A complete enumeration of first principles not aimed at.* — There are, of course, other primary truths of consciousness, both of this and the preceding classes. These, however, are some of the more important, and all that need be named here. Without, therefore, attempting a further enumeration,* I close this section with an abridged statement of the four *criteria* of Sir W. Hamilton,† for distinguishing our original from our derived convictions. They are as follows:—

(1.) "Their *incomprehensibility*. A conviction is incomprehensible when there is merely given us in consciousness — *That its object is*, and when we are unable to comprehend through a higher notion or belief, *Why or How it is*. When we are unable to comprehend why or how a thing is, the belief of the existence of that thing is not a primary datum of consciousness, but

* Dr. Whewell, in his *Philosophy of the Inductive Sciences*, has given a very full and elaborate enumeration of the primary truths of consciousness, especially of those used in inductive investigations. But he is generally thought to have admitted too many truths to the honor of originality.

† See Wight's Hamilton, pp. 47 — 49.

a subsumption under the cognition or belief which affords its reason.

(2.) "Their *simplicity*. It is manifest that if a cognition or belief be made up of, and can be explicated into, a plurality of cognitions or beliefs, that, as compound, it cannot be original.

(3.) "Their *necessity and absolute universality*. Necessity and universality may be regarded as coincident. For when a belief is necessary, it is, *eo ipso*, universal; and that a belief is universal, is a certain index that it must be necessary. But the necessity here spoken of, is of two kinds. There is one necessity, when we cannot construe it to our minds as possible, that the deliverance of consciousness should not be true. There is another necessity, when it is not unthinkable that the deliverance of consciousness may possibly be false, but merely impossible to deny that such actually is the deliverance of consciousness. Deliverances of the first kind are more commonly called *necessary truths* ;* those of the latter kind are called by Dr. Reid *first principles of contingent truths*.

(4.) "The fourth and last character of our original beliefs is their comparative *evidence* and *certainty*. This, along with the third, is well stated by Aristotle: 'What *appears to all*, that we affirm *to be*; and he who rejects this belief will assuredly advance *nothing better deserving credence*.' And again:—'If we know and believe through certain original principles, we must know and believe these with *paramount certainty*, for the very reason that we know and believe all else

*Embracing the ideas of Space, Time, Causation, Substance, and especially, the Mathematical and Logical Axioms.

through them.' This constitutes the first of Buffier's essential qualities of primary truths, which is, as he expresses it,—'to be so clear, that if we attempt to prove or disprove them, this can be done only by propositions which are manifestly *neither more evident nor more certain.*'"

SECTION IV.

TRUSTWORTHINESS OF CONSCIOUSNESS.

1. *What the question here is.*—The question here is, how much confidence should be placed in a simple, primary fact or truth of consciousness; what degree of credit these original data of consciousness are entitled to. And it is the more necessary to consider this question, as it has been fashionable to discredit these primary intuitions as mere *beliefs* or *feelings*, furnishing no guaranty for their truth. That any thing should be relied upon as true, it has been thought necessary that it should be supported by proofs.

2. *There must be first principles in knowledge.*—But it is obvious, on the slightest reflection, that all proofs owe their validity entirely to their conformity to the laws of thought. All proofs start with simple, admitted principles of intelligence, and proceed only by its continued admissions. And what are these admissions but primary intuitions of consciousness? It is obvious that every thing cannot be proved. If it could be, then every proof might in turn be proved, and there would be a continual retrogression of reasons for reasons, without end. There must be starting-points in knowledge, and these can be nothing else than the

primary intuitions or convictions of our conscious intelligence, either facts or truths of consciousness.

3. *The nature of these principles.*— Some of these intuitions, as we have seen, are absolutely necessary forms of thought, we can neither annihilate them in thought, nor think their opposites. And is it probable that we should have been made with such an inexorable necessity of thinking thus, unless things really are as we are compelled to think them? Other intuitions, though not thus necessary to thought, are equally necessary as facts,— we are compelled by an inward necessity to admit them as facts. They force themselves upon us as undoubted realities. If they are not realities, if they are wholly, or in any degree, delusive, then, as in the previous case, we are plainly tantalized by our Maker,— we are furnished with a semblance of knowledge only to be made its dupes; our capacity of knowledge is an *ignis fatuus* to lead us astray.

4. *They can be discredited only by showing them to be contradictory.*— There is always, then, in the first instance, a decided presumption in favor of these primary intuitions, which must remain unless they can be discredited in some way, as by showing them to be contradictory among themselves, which never has been done, and probably never will be. It is always allowable, of course, to deny that what is claimed to be an original intuition is such. But then, it is incumbent on the doubter to *show* that it is not original, either by pointing to some simpler intuition from which it is derived, or by proving that it really is no valid perception of the mind, but only a prejudice or whim of the fancy.

5. *They lie at the foundation of philosophy.*— These

primary intuitions of consciousness lie at the foundation of philosophy, which is, indeed, but the development and application of the facts and truths which consciousness immediately reveals. A philosophy, therefore, which professes to rest upon consciousness, while it should carefully exclude all spurious first principles, should be equally careful to embrace all the real primary facts and truths of consciousness. And admitting these, it must admit as one fact the immediate consciousness of external objects in perception; for our consciousness of external objects in perception is as clear as our consciousness of any thing whatever. Here, as in other cases, we are to inquire simply for the *fact*, and not to reject the fact because we cannot see *how* it can be so.

SECTION V.

CONCENTRATION OF CONSCIOUSNESS (ATTENTION AND REFLECTION.)

1. *What attention is.*—*Attention* is a special concentration of consciousness upon some particular object, process, phenomenon, or passing event. When we give ourselves up to the influence of what is passing around us, without endeavoring to control our thoughts or feelings, there is no special exercise of attention. In such cases, there is barely the ordinary wakefulness of the mental powers, such as is secured to each object in turn, by the varying interest which they excite in the mind in its different moods. But the moment we make an effort to apply ourselves to any particular business or study, our consciousness is more or less concentrated on that, to the exclusion of other things;

and in the highest concentration of consciousness, every thing is excluded from the mind except the matter immediately under consideration.

2. *Attention carries the whole mind with it.*— As the acts of the mind are only conscious acts, and as, indeed, we know the mind only in its conscious acts, when the consciousness is specially concentrated upon any object, the whole mind is virtually concentrated upon it. Hence, when attention to any thing is complete, we are wholly absorbed in it, and are as incapable, while the concentration lasts, of any other intelligent process, be it perceiving, remembering, or reasoning, as though we had no mind. By attention, then, the whole mind is turned to some object, with the faculty, or faculties, required in the case, in the highest degree of wakefulness, and in readiness to exert themselves.

3. *How far the attention is under the control of the will.*— The special concentration of consciousness, called attention, is effected by the will, and hence the attention is said to be under the control of the will. This it undoubtedly is to a certain extent, but not absolutely. We can at any time, by an act of the will, concentrate our attention upon an object, but we cannot always, by an act of the will, keep it so concentrated, against the intrusion of wandering thoughts and the diverting influences of passing events. Hence the attention, after it has been concentrated on any object, is liable at any moment to be diverted. The will, doubtless, may resist these influences to a certain extent, but not to all extents,— they may become so powerful as to be irresistible. Here, then, are indicated the chief points to which we should direct our efforts in attempting to increase our control over the attention.

4. *To control the attention we should always act with a will.*—In the first place, then, we should cultivate resoluteness of purpose and persistence of will in controlling the attention. We should form a settled purpose of acquiring as complete control over our attention, and hence over our faculties generally, as possible. When we turn our attention to any thing, we should do so with the determination of holding it there to the end, if possible, against all distracting influences. We should make it a point to resist to the utmost all such influences. We should be resolute and in earnest in all that we do, working in all cases under a strong tension of the will. Such a course will greatly increase the power of the will over the attention amid distracting influences.

5. *We should cultivate orderly habits of thought, etc.*—Besides, these disturbing influences themselves may be very much diminished and controlled by proper internal habits and external arrangements. Wandering and intrusive thoughts come chiefly of desultory habits of thinking. Our minds are formed for regular and coherent thought. In the natural order, one thought leads to another by a regular succession. In memory, reasoning, and all the fundamental processes of thought, one step almost necessarily follows another in a given order, in a well-regulated mind. To exclude wandering thoughts, then, we have only to follow, and confirm in our practice, the order of nature as to the connection of our thoughts. We should persistently discipline ourselves to think in a connected order, and thus curb the erratic and capricious action of the imagination. So, too, we may protect ourselves very much against the disturbing influences of external objects by proper

external arrangements. When we engage in any thing requiring close attention, we should not leave ourselves at the mercy of any one of ten thousand influences, by undertaking it in the midst of the distractions of business, of society, or even of the family circle. All the more difficult and protracted mental efforts require retirement. Thus, and thus only, can the attention be preserved long enough to carry them through.

6. *We should so order our occupations that surrounding influences may promote attention to them.* — Another means of controlling our attention is, so to order our pursuits, as to always have something for our chief object of attention, of such a nature that the surrounding influences will tend to promote its prosecution, or at least not be adverse to it. As we should think, investigate principles, and examine books in the study so we should study human nature in society, works of art in travel, and objects of Nature out among her works. Thus the mind will always be kept wakeful, and exert itself to the best advantage.

7. *Reflection as distinguished from attention.* — Thus much of attention. And the same applies to *Reflection*, which is merely attention directed to mental phenomena. Or more strictly, reflection is attention directed to some truth, principle, mental state or act, for the purpose of *re-examining* it. As a mere passing phenomenon, a mental act, or state, is more commonly spoken of as an object of attention,—as when we say to one, “Attend now to what is passing in your mind.” But when we think of the act again, and examine its character, it is properly called reflection.

8. *No extended remarks needed on reflection.* — As all that has been said of attention, and the means of im-

proving it, applies equally to reflection, it need only be added here, that the power of reflection is particularly required in psychological studies. Psychology rests wholly on the observed facts of consciousness; and hence, the whole success of the student of this science depends upon his power of internal observation,—upon his ability to seize upon and examine the delicate machinery and fleeting thoughts of his own mind. It is a power not easily acquired; but, difficult of acquisition as it is, it may be gradually gained by persevering efforts. And a power so valuable will abundantly repay all the effort which it costs.

CHAPTER III.

PERCEPTION.

SECTION I.

THEORIES OF PERCEPTION.

1. *Grounds of the different theories.* — As already remarked, the general fact of perception as revealed in consciousness, embraces two elements, the consciousness of a knowing self and of an object known, distinct from self, and of the latter quite as distinctly as of the former. Now we may either accept this fact just as it stands, as establishing the existence of a knowing subject and known objects distinct from it; or we may take the consciousness and its object as only modifications of the same common substance; or we may suppose the object to be merely a supernatural, or self-limiting, form of consciousness: or, on the contrary, that consciousness is only a modification of the object; or we may deny a substantive existence to both subject and object,—regarding them alike as mere phenomena; or we may regard the consciousness of external objects as only representative, not real, and yet hope to establish the existence of the external object by other means. Thus there may be, and actually have been, six different theories of perception.

2. *The realistic theory.* — The first theory holds to a real knowledge of both subject and object in percep-

tion, and is variously denominated, Realism, Natural Realism, or Natural Dualism. As consciousness reports an actual knowledge of external objects in perception, quite as distinctly as of an internal knowing subject, realism receives both elements as standing on precisely the same footing, the one as readily as the other. And while it does not profess to explain *precisely how* the external element is reached in perception, still, it holds it to be quite conceivable, that, through the medium of the body, outward objects may be brought into such relation to the mind, as to be actually apprehended in certain of their qualities.

3. *View of perception taken by this theory.*—Accordingly, realism holds that external objects are immediately perceived through *resistance*, and that, in the exercise of the senses proper, the impressions made upon the organs by external objects, are not mere arbitrary occasions of the perceptions which ensue, but constitute particular affections of the organs, which are directly apprehended by the mind, and through these, the external objects themselves. The mind is conceived as so connected with the organism,* either in its whole extent, or at its central terminations in the brain, as to be itself actually affected or modified by the affection of the organ, and hence becoming directly conscious of the organ as extended, and through this, of the ex-

* Mind and matter being characterized by entirely different qualities, it is difficult to conceive them as brought into such connection with each other, that an affection of the one shall, at the same time, be an affection or perception of the other. But there is no greater difficulty in this respect, on the realistic view, than on any other view which does not merge mind and matter in one, and then there spring up difficulties of a different nature, and far more formidable.

tended object itself. Thus the apparent knowledge which we have of external objects is based upon actual perception, and is therefore real.

4. *This the only theory which admits all the facts of consciousness.*— This is the only theory which does not mutilate consciousness, but receives all the elements just as they are presented. This was, intentionally at least, the theory of Dr. Reid, and his followers of the Scottish School of Philosophy, and has been clearly developed and expounded anew, with surpassing ability, by the latest and most distinguished disciple of that School—Sir W. Hamilton. This theory, as on the whole the safest and most consistent, though not without its difficulties, is the one adopted in the present treatise.

5. *The theory of absolute identity.*— The second scheme of perception, is what goes under the name of the theory of Absolute Identity, and is, briefly, *pantheism*. According to this system, mind and matter, God and nature, are one and the same substance. Or, to state the case more accurately, there is but one substance in existence, which manifests itself under the two different attributes of *thought* and *extension*, constituting consciousness and its object. Mind and matter, therefore, are but phenomenal modifications of the one absolute substance, which has been variously denominated, by the philosophers of this school, God or Nature. Consciousness, then, is but the thought of God (or Nature) apprehending or employed about his extension. On this theory, therefore, there is no proper perception ; but the one all-pervading and all-constituting substance is merely conscious, at separate centres, of counter forms of itself. This is the celebrated system of Spinoza, and under different and more subtle

forms, of Schelling and Hegel,—in whom, especially the latter, it runs virtually into *nihilism*.

6. *This theory does violence to consciousness.*—I need not say, that this theory does violence to all the facts of consciousness, both in perception and all the experience of life. Consciousness testifies to a perceiving subject and a perceived object, as distinct and as strongly contrasted with each other as two things possibly can be. Consciousness, also, testifies to our personality, freedom, and responsibility; but pantheism is the most adamantine system of fatalism ever conceived. However plausible the system may appear, from its simplicity and logical coherence, it is too directly in conflict with consciousness, and too monstrous in the consequences to which it leads, ever to be generally received.

7. *The ideal theory.*—The third theory is called Idealism, and makes perception merely the apprehension of ideas or thoughts of the mind. It accounts for the origin of these ideas in the mind in various ways, as by the action of a constitutional law, by the immediate agency of God, or some other supernatural agency; or else it regards them as merely self-limiting forms of the consciousness itself. This system annihilates the external world, and converts it into an internal world of mere sensations, ideas, thoughts, etc. It is most fully and consistently developed by Bishop Berkeley, Arthur Collier, and Fichte.

8. *Criticism of this theory.*—That we are conscious of objects *as external*, no one can deny, or possibly believe that they are not *really so*. The idealist, assuming that perception must necessarily be representative, and human knowledge be wholly confined to our mental representations (i.e., virtually begging the whole ques-

tion), may logically prove that no external world can ever be perceived, and hence that its existence is a mere assumption. But this proof produces no conviction, either in himself or others. The mind can never rest in such a conclusion. It violates the positive and most decisive testimony of consciousness, which cannot be at fault, though logic may be. If the experience of life is indeed ideal, consciousness, surely, is a most unveracious principle. Life can be made ideal only by a constant translation, and a translation effected by a most forced interpretation. Life done into idealism is a strange and unknown tongue, to the last degree absurd and ridiculous.*

9. *Materialism.*—The fourth theory makes thought but a quality or function of matter, and is therefore denominated Materialism. This “dirt philosophy” (as Fichte aptly styles it) we can hardly suppose any well-instructed person, at the present day, in danger of adopting. Our material body is unquestionably a medium of communication for the spirit with the external world, and perception is somehow carried on through it. Indeed, the mechanical part, or the antecedents, of perception, may be traced up several steps through the mechanism of the body, but not so that we can see exactly where thought emerges,—certainly not so that we discover it to emerge from any part of the organism. Indeed, it is clearly impossible for us even to conceive that thought is a function or phenomenon of matter. That matter, of itself, feels, perceives, remembers, thinks, and wills, we can neither believe nor even imagine.

* On this point, see an article by the author, on *Hume's Philosophy*, in the April No. of the Christian Review, 1855.

10. *Nihilism*.—The fifth theory has been denominated Nihilism, since it denies all substantivc existence, whether material or spiritual, and leaves nothing but impressions, ideas, thoughts, etc. The existence of various states of consciousness it cannot doubt, for doubting is itself a state of consciousness, and hence proves the existence of what it doubts. It is allowed that we directly apprehend, whether of matter or mind, nothing beyond their qualities or manifestations.* But, as we have already seen (chap. 2, sec. 3, i. 5), by a necessary law of thought imposed upon us by our Maker, we cannot think of qualities or states except as relative to some subject to which they belong. This theory, therefore, errs in disregarding an important primary *truth* of consciousness, as some of the preceding do in disregarding *facts* of consciousness. The theory is the most rigidly carried out by Hume and Hegel,—by the former in a sceptical, and by the latter in a dogmatic, way.

11. *Hypothetical realism*.—The sixth and last theory has received different designations, according to the point of view under which it is considered. It has been called Cosmthetic Idealism, as assuming the *cosmos*, or external world, while it holds, with *idealism*, to a direct knowledge, in perception, of only an internal representation or thought. Again, it has been called Hypothetical Realism, or Hypothetical Dualism, because it holds to the *real* existence of *both*

* This is the almost universally admitted view of philosophers, and I do not see how any other view can be maintained. But Mr. Mansel, unquestionably one of the most learned and acute metaphysicians of the age, holds to an actual consciousness of self, as a substantive existence. See his *Prolegomena Logica*, p. 153.

mind and matter, but, not holding to a direct perception of the external world, it endeavors to establish its existence by various *hypotheses*.

12. *Criticism of this theory.*—There is, therefore, the same objection to this theory, on one side, that there is to the ideal theory,—that it rejects the entire objective element reported in consciousness, and puts in its place mere thoughts, or mental representations, which no one is conscious of in perception. At the same time, the assumption of the existence of an external world is unwarranted. While the theory *denies the direct perception* of an external world, *although we believe* that we are conscious of external objects in perception, it confidently *asserts the existence* of that world, *because we can but believe* in its existence. But our belief in the *existence* of external objects certainly is not clearer or stronger than our belief that we are *conscious* of them in perception; how, then, are we to know, if one belief is delusive, that the other is not delusive also? It is surely the height of absurdity for one who denies the authority of the one belief, to assert the validity of the other. Besides, how can the mind, if it actually *knows* nothing of external objects, be supposed correctly to *represent* them in perception?

SECTION II.

WHAT WE PERCEIVE.

1. *We do not directly perceive either matter or mind.*—As already more than once stated, we do not directly perceive either matter or mind in its essence. We know nothing of the absolute essence or nature of

either. All that we perceive in matter, is, the various qualities, and all that we are conscious of in mind, is, its different states and acts. And even these qualities and states we do not know absolutely, but only *relatively*, i.e., relatively to our faculties; in other words, we know them only as they appear to us. For aught we know, they may, in themselves, be quite different from what they appear to us to be, though there is always a strong presumption that our perceptions convey to us correct information of things,—that, as far as they go, they accord with the reality.

2. *But consciousness always reveals itself as personal.* — It is a remark of Cicero, that “the mind, like the eye, seeing other things, sees not itself.” Consciousness, as far as absolutely known to us, is a mere phenomenon, a cognizance of what is going on within a given sphere, but not of the nature of that sphere. Consciousness reports nothing, either of the mind or of the organism by which it is enclosed, except their affections or modifications. And yet, consciousness always reveals itself as personal. It always says, “I think,” “I feel,” etc., and not, “there is a thought,” “there is a feeling,” and the like. Here the *I* is but the substratum, which, from the necessities of thought, we place under consciousness. Consciousness cannot be thought of, or expressed, as independent of a conscious subject. Hence, though we are not directly conscious of any thing more than the affections of self, we necessarily assume for ourselves a substantive existence.

3. *In like manner we perceive nothing of matter but its qualities.* — So too of matter, while, by a necessity of thought, we assume for it a substantive existence, we directly perceive nothing but its qualities. It be-

comes important, therefore, to know what these qualities are, and how far we know them. The properties of matter have usually been distributed into two classes, called Primary and Secondary Qualities. To these Sir J.W. Hamilton has added a third class, which, as being somewhat intermediate between the other two classes, he calls Secundo-primary Qualities.

4. *Primary qualities of matter.*— These are Extension, and the subordinate qualities implied in it, as Divisibility, Size, Density or Rarity, Impenetrability, and Figure. Besides, as objects exist in space, which is also extended, they are susceptible of Motion, and Situation, which are sometimes called qualities of matter.

5. *Secondary qualities.*— These are the occult powers, or properties, of matter, which are supposed to produce various affections of our sentient organism; such as Color, Sound, Flavor, Savor, Heat, Electricity, Galvanism, and the various causes of the different bodily sensations and feelings of pleasure and pain. These properties, or powers, are not directly perceived or known in themselves, but only inferred, as the supposed causes of various affections produced in us by external objects. Indeed, as apprehended, they are only subjective affections of our sensitive organism, and hence these affections pass by the same name as their supposed causes.

6. *Secundo-primary qualities.*— In the words of Hamilton, “The Secundo-primary qualities of matter have always two phases, both immediately apprehended. On their primary or objective phasis, they manifest themselves as *degrees* of resistance opposed to our locomotive energy; on their secondary or subjective

phasis, as *modes* of resistance or pressure affecting our sentient organism. Considered *physically*, or in an objective relation, the secundo-primary qualities are to be reduced to classes corresponding to the different sources in external nature from which the resistance or pressure springs, which are three: Co-attraction, Repulsion, and Inertia."

7. *Remarks of Hamilton on these qualities.*—Further to illustrate the character of these qualities and their relations, both in themselves and as perceived and thought, I select from the same distinguished author, who has treated the subject in a most exhaustive manner in an Appendix to Dr. Reid's works, the following observations from many more of the same sort:—

(1.) "The Primary are less properly denominated Qualities (suchnesses), and deserve the name only as we conceive them to distinguish body from not-body — corporeal from incorporeal substance. They are thus merely the attributes of *body as body*. The Secundo-primary and Secondary, on the contrary, are in strict propriety Qualities, for they discriminate body from body. They are the attributes of *body as this or that sort of body*.

(2.) "The Primary arise from the universal relations of body to itself; the Secundo-primary from the general relations of this body to that; the Secondary, from special relations of this kind of body to this kind of animated or sentient organism.

(3.) "The Primary determine the possibility of matter absolutely; the Secundo-primary, the possibility of the material universe as actually constituted; the Secondary, the possibility of our relations as sentient existences to that universe.

(4.) "Under the Primary we apprehend modes of the

not-self; under the Secundo-primary we apprehend modes both of the self and the not-self; under the Secondary we apprehend modes of the self, and infer modes of the not-self.

(5.) "The Primary are apprehended as they are in bodies; the Secondary as they are in us; the Secundo-primary as they are in bodies and as they are in us.

(6.) "The term *quality* in general, and the names of the several qualities in particular, are, in the case of the Primary, univocal, one designation unambiguously marking out one quality; in the case of the Secundo-primary and Secondary, equivocal, a single term being ambiguously applied to denote two qualities, distinct though correlative—that, to wit, which is a mode of existence in bodies, and that which is a mode or affection in our organism.*

(7.) "The Primary are qualities of body in relation to our organism, as a body simply; the Secundo-primary are the qualities of body in relation to our organism, as a propelling, resisting, cohesive body; the secondary are the qualities of body in relation to our organism, as an idiopathically excitable or sentient body.

(8.) "The Primary are apprehended objects; the Secondary, inferred powers; the Secundo-primary, both apprehended objects and inferred powers.

(9.) "The Primary may be roundly characterized as mathematical; the Secundo-primary as mechanical; the Secondary as physiological.

(10.) "Using the terms strictly, the apprehensions of the Primary are perceptions, not sensations; of the

* As for instance, *hardness*, *heat*, *color*, etc., which denote both the organic sensation and the external cause.

Secondary; sensations, not perceptions ; of the Secundo-primary, perceptions and sensations together.

(11.) "In the apprehension of the Primary qualities, the mind is primarily and principally active ; it feels as it knows. In that of the Secondary, the mind is primarily and principally passive ; it knows only as it feels. In that of the Secundo-primary, the mind is equally and at once active and passive ; in one respect it feels as it knows, in another, it knows as it feels.

(12.) "In the Primary, a sensation of organic affection is the condition of perception, a mental apprehension ; in the Secundo-primary, a sensation is the concomitant of the perception ; in the Secondary, a sensation is the all-in-all which the consciousness apprehends.

(13.) "All the senses, simply or in combination, afford conditions for the perception of the Primary qualities ; and all, of course, supply the sensations of the Secondary. As only various modifications of resistance, the Secundo-primary qualities are all, as percepts proper, as quasi-primary qualities, apprehended through the locomotive faculty, and our consciousness of its energy ; as sensations, as secondary qualities, they are apprehended as modifications of touch proper, and of cutaneous and muscular feeling.

(14.) "As modes of matter, the Primary are thought as necessary and universal ; the Secundo-primary as contingent and common ; the Secondary as contingent and peculiar.

(15.) "The apprehension of a Primary quality is principally an intellectual cognition, in so far as it is, in itself, a pure mental activity, and not a mere sensation of an organic passion ; and secondarily, a sensible

cognition, in so far as it is the perception of an attribute of matter, and, though not constituted by, still not realized without, the sensation of an organic passion. The apprehension of a Secondary quality is solely a sensible cognition ; for it is nothing but the sensation of an organic passion. The apprehension of a Secundo-primary quality is, equally and at once, an intellectual and sensible cognition ; for it involves both the perception of a quasi-primary quality, and the sensation of a secondary."

SECTION III.

HOW WE PERCEIVE.

1. *What is here aimed at.* — I do not, of course, expect to be able to trace perception up to its crisis, and determine exactly the nature, or very precisely even, the manner of the act. My object simply is, to describe as accurately as possible the conditions and antecedents of the act, as far as known,— to give a criticised account of perception. Perception is not wholly arbitrary in its nature; it has fixed and unvarying conditions, and certain outward and mechanical antecedents, all of which may be known and should be stated. This is all that is here attempted.

2. *Perception through resistance.* — The body is the medium of the mind in perception, and nothing external can be apprehended by the mind except in or through this medium. The mind and its object are brought most directly face to face through resistance ; but, to say nothing of the organic feelings which ac-

company resistance and certify the fact, we could not be resisted or arrested by external objects, without a material body. But having such a material organism, and having also the power of changing place in all directions, and with all our limbs, we are capable of being arrested by external objects, and of knowing that we are thus arrested. When our limbs obey our wills and move in accordance with our purpose, we are always conscious of it, and equally so, of course, when their motion is arrested. In such a case, then, knowing that the limb is obedient to our will, we know that it is not arrested by any thing within our organism, but by something without that organism. Here, then, we become directly and at the same time conscious of a self and a not-self, standing face to face with each other; so that both enter as correlative elements into one conscious act, and are equally essential in constituting it. This is strictly an immediate perception, or intuition.

3. *The perception of resistance implies a resisting object.*— And if it be said, that all which is really perceived in such a case, is *resistance from without*, it is admitted, that, in strictness, this is so. As already repeatedly stated, nothing but qualities is directly perceived in any case. But it has also been repeatedly stated, that we cannot think of qualities alone. The moment, therefore, that we become conscious of a resistance from without, we assume, by a necessity of thought, that this resistance resides in an object, which is also external to us. Indeed, a quality and its subject of inhesion are so entirely relative, that they always come into the mind together. Resistance is all the same to us as a resisting object.

4. *In perception by sense the object must be within the sphere of sense.*— In even a more intimate and important sense, the body is the medium of the mind in perception by the senses proper. It is an indispensable condition to all perception by the senses, that the object perceived should be within the sphere of sense. By this I mean, that every object, in order to be perceived, must be brought into direct physical connection with the organ of sense to which it is addressed. In perception by Touch, there must be an actual contact of the object with some part of the surface of the body; in perception by Sight, an actual impinging of the rays of light from an object upon the retina of the eye; in perception by Hearing, an actual impinging of vibrations upon the tympanum of the ear; in that by Smell, an actual diffusion of effluvia upon the olfactory nerve; and in that by Taste, an actual solution of a sapid substance upon the tongue and fauces.

5. *Remark of Hamilton.*— In the language of Hamilton : * “ This distinction of a *mediate* and *immediate* object, or of an object and a medium, in perception, is inaccurate and a source of sad confusion. We perceive, and can perceive, nothing but what is in relation to the organ, and nothing is in relation to the organ that is not present to it. All the senses are, in fact, *modifications of touch*, as Democritus of old taught.”

6. *There is an actual modification of the organ in perception.*— There is, then, in all cases of perception by the senses, and as an indispensable condition to the act, an actual modification of the organ by the presence or contact of the object perceived. The organ is always affected or changed by the presence of something

* Dr. Reid's Works, p. 247.

foreign to it. In sight, for instance, there is an actual image of the object formed upon the retina of the eye, which, of course, produces a modification or change in the organ. And so in perception by the other senses, there is always some modification of the organ, according to the physical action required in the case.

7. *It is uncertain whether this modification extends beyond the surface.*—That there is, in perception, any change in the organ beyond the surface, has never, so far as I am aware, been established by actual observation or experiment. But it has generally been supposed that there is, and various theories have been suggested as to the manner in which impressions of external objects are borne in to the mind — supposed to be situated in the brain — along the nerves ; such as the theory of *vibrations* in the substance of the nerves, the *flow of animal spirits*, or of some general nervous agent, through or along the nerves, the *influx* of actual representative *films*, or *forms*, or *species*, from without. These, however, are mere hypotheses, some of them utterly inconceivable, and none of them established by experiment. Besides, the assumption that the mind is confined to the centre of the organism, in the brain, and hence needs some intermediate agent to keep up the communication with the surface, is not established beyond dispute. Arguments are presented both for and against the view.

8. *Arguments for a special sensorium at the centre.*—The chief reasons for assuming a special *sensorium*, or presence-chamber of the mind, at the centre of the organism, are these : First, it is found that if the nerve leading from any organ or part of the body to the brain be severed or materially injured, no sensation or per-

ception ensues on the approach or contact of an external object with that part. Secondly, if a limb be amputated, and the extremity of the nerve where the amputation is made be irritated, or if a nerve be irritated at any point between the centre and the surface, the sensation is felt as if at the natural extremity, which seems to indicate, that the localizing of our sensations in the organs is the result of habit. Thirdly, that if the mind is present in all parts of the organism, then, in losing a part of the body, we lose, also, a part of the mind. But this last reason, and perhaps the first, it may be remarked, are really arguments against a *permanent* connection of the mind with all parts of the organism, rather than against the view, which is entirely sufficient for the case, that the mind *traverses* all parts of the organism.

9. *Arguments for the presence of the mind in all parts of the organism.*—Against the notion that the mind is wholly confined to the centre of the organism, it is argued: First, that in perception by the senses, there is no consciousness of any affection, whether mental or physical, except at the surface. That as we confessedly, and consciously, think, or combine our thoughts, at the centre, in the head, we as obviously feel, taste, hear, smell, and see, or at least, experience, the sensations on which these perceptions depend, at the surface. The consciousness of action at the surface in the latter cases — or most of them, at least — is as clear as the consciousness of action at the centre, in the other. Secondly, that if sensations are not directly experienced by the mind present in the organs, they are only arbitrarily referred to the surface, and then, how does it happen that they are always referred to that part,

whether external or internal, where there is an actual organic affection ? Thirdly, that the connection of the mind with the organism, whether at the centre or in its whole extent, is equally mysterious, and is attended with scarcely less difficulties in the one case than in the other. And fourthly, that unless the mind is so connected with the organism, that the affections of the latter, at some point, determine corresponding mental affections — making sensations equally organic and mental affections — no veritable perception of external objects can ever be reached through the senses, but we are merely excited by certain motions, or presentations, in the organism, to think of or conceive them.

10. *A somewhat intermediate view the best.* — On the whole, perhaps the assumption of an *extended sensorium* (as it must necessarily be), embracing the central termini of the nervous system, in which *the mind is so present to these terminations as to be itself affected by the affections which they suffer*, is attended with the fewest difficulties. For, in this case, there is a real perception of an extended organism at its central terminations, and through this, of extended objects ; while the reference of sensations to the surface, is, perhaps, only a consequence of that perceived outness of parts involved in every conscious affection of the organism at its radiating centre.

11. *Sensation and perception.* — The consciousness which we thus have of the affection of an organ, is commonly called a *sensation*. But as sensations reveal themselves as out of each other, in the experience of sensations we become conscious of extension, which is a real *perception*, though not extending to the external cause of the sensations. Direct perception by the

senses proper, is wholly confined to the organism. By means of the organic affections received through the different senses, we become directly conscious of our organism as extended; and then, this being once known as extended, we come to *infer* extension in bodies known to be external to us through resistance. For, as these external bodies are found to affect different points of our extended organism, we infer that they also are extended. And so, too, we infer the existence of the secondary qualities of matter from the effects which they produce upon our organism. Thus it is that we make our way out into the world through perception.

SECTION IV.

PERCEPTION BY THE DIFFERENT SENSES.

I. TOUCH (FEELING, PAIN, MUSCULAR SENSE).

1. *Definitions of touch, feeling, etc.* — The sensation caused by bringing an external object gently into contact with the skin is called *touch*; the more internal and subjective sensation caused by the pressure of the object touched, or other causes, is called *feeling*; while that occasioned by the violent contact of an external object, or by any injury of the tissues of the body, or by internal or external disease, is called *pain*. The Muscular Sense, sometimes called the *active sense*, embraces the sensations felt in the muscles when exerted in overcoming resistance. Besides these general sensations, there are other peculiar and occasional feelings, caused by local or special stimuli, such as those felt in sneezing, shuddering, or from the effects of fear, heat, cold, etc.

2. *The seat of these various sensations.* — All these different sensations have their seat in the *nerves of touch or feeling*, which proceeding from the brain and spinal chord, are distributed to all parts of the body, and branching out into innumerable minute filaments as they approach the surface, protrude themselves through the skin to the cuticle, in the form of *papillæ*, or little prominences, with varying degrees of proximity to each other in different parts of the body, but at minutely small distances in all parts. All the proper feeling experienced in any part of the system, even in the use of the other senses, is yielded by this class of nerves. The nerves of each sense yield but a single class of sensations, whatever be the stimulus applied ; as we learn, in the case of sight, by pressing upon the eye, when we are conscious of the sensation of color, as if the organ were under the stimulus of light. So our nerves of touch yield nothing but feeling, and yield all the feeling of which we are conscious.

3. *The experience of which we are susceptible through this sense.* — If all the various sensations which have their seat in the nerves of feeling be grouped together under the sense of touch, as they more commonly are, we are susceptible of a more varied experience through this sense, than through any other. Its sensations furnish more obtrusively than those of the other senses, the conditions for perceiving extension in our own organism and inferring it in external objects, while through the feeling of resistance we become directly conscious of external objects. It is through the nerves pertaining to this sense, also, that we experience the sensations of heat and cold, of the healthy and diseased action of all the organs, of disorganization, of injury done to

any part of the body, and various other sensations so essential to our comfort or preservation.

4. *The hand the most important organ of this sense.* — The hand is the most important organ of this sense, as well on account of its delicate sensibility to external objects, as on account of the freedom of its motions and its adaptedness to grasping and thus ascertaining the form of objects. The blind man, by passing his fingers over the lines of a book printed in raised letters, reads almost as readily and rapidly as one does by sight. But while the form of small objects which can be grasped, or are easily compassed by the motion of the hand, is very readily determined by touch, it is very difficult, if not impossible, to ascertain the form of large objects by this sense alone. The form of such bodies is more readily learned by sight, through its acquired powers.

II. TASTE.

1. *The organ of this sense.* — The tongue is the organ of taste, the skin of which, at innumerable points, is pierced to the mucous membrane by minute filaments of the *gustatory nerve*, producing the little prominences, or *papillæ*, which are plainly discernible all over its surface, but especially on the tip, edges, and near the root. Although this organ, like all other organs and parts of the body, is supplied with nerves of feeling, it is the gustatory nerve alone which is susceptible of the distinctive sensation of taste. As it is necessary that the substance should be diffused over the organ and be brought into close connection with the terminations of the nervous filaments, in order that it be tasted, only such substances as are soluble in the

saliva affect the sense; and hence, while the mouth is furnished with teeth for crushing substances, the tongue is surrounded by the salivary glands which secrete this fluid. Hence it is, that if from any cause the saliva is scantily furnished, or the tongue becomes coated so as to cover the *papillæ* to any considerable depth, the taste, for the time being, is greatly injured or destroyed.

2. *A taste is a mere sensation.*—Taste is a mere sensation, and conveys to us directly no knowledge of its cause. As, however, we soon learn that the sensation arises only when certain substances are placed in the mouth, we infer that these are the cause of it. But what the particular property in objects is which causes the sensation, at least in its nature, is still unknown. As a mere subjective sensation yielding no perception of an external extended object, a taste involves but few physical elements,—barely those embraced in the physical changes produced in the mouth by the substance tasted. But even these are often sufficient to afford the ground for a description of it, and are always present to the mind in recalling the sensation. In recalling tastes, we often smack the lips, or spit, as though rejecting something offensive from the mouth, in evident allusion to the impression which they originally made upon this organ.

3. *Taste as a test of wholesomeness.*—Whatever is taken into the mouth and has an agreeable taste, we have a disposition to swallow, while we involuntarily reject whatever has a disagreeable taste. However, the taste of substances is but a poor test of their wholesomeness. Some of the most deadly poisons, as, for instance, arsenic, are sweet and agreeable to the taste, while most of the useful medicines are very offen-

sive to the taste. And even of articles of food, it is not always those which are the most agreeable to the taste that are the most healthful. It is only by experience that we learn what is hurtful to be eaten, and having learned this, the other senses enable us, without resorting to taste, to recognize, on their recurrence, articles which have been found to be of this character, as well as those which have been found to be of an opposite character.

III. SMELL.

1. *The organ of this sense.*—The nose is the organ of smell, in the back part of which are situated the *turbinated bones*, which consist of thin convoluted plates, like a piece of crimped paper, exposing a large surface in a small space. Over these bones is spread the *olfactory nerve*, in which resides the susceptibility to odors; and this, again, is covered by the mucous membrane which lines the nose and mouth, and secretes the mucus necessary to keep the surface soft and in a condition favorable to perception. An organ thus situated and constructed, can be reached by external objects only through minute particles thrown off from them, and borne through the air to the interior of the nose. Hence only those substances are odoriferous which are capable of throwing off such particles.

2. *Smell is a mere sensation.*—Smell, like taste, is a mere sensation, conveying no direct knowledge of its cause. The cause is discovered only by experience. By observing that the presence of certain objects is accompanied by the sensations of smell, we infer that these sensations are somehow caused by these objects. On further examination, we learn that particles of the

substance smelled, called *effluvia*, are actually present in the air, and must be drawn into the nostrils with every inspiration of the breath. We conclude, therefore, that these substances cause the sensations by throwing off particles into the surrounding air, which by due process are brought into contact with the organ. As to the physical character of the sensation, and its capability of being recalled in memory, much the same may be said as in the case of taste. We often recall an agreeable or disagreeable odor so vividly, as to seem now to be smelling it, and snuff or snort with the nose as an indication of our conception of its character.

3. *Importance of the sense.*—Smell is an important sense, not only as assisting in determining what is wholesome to be taken into the system (and for this reason, as remarked by Socrates of old, placed near the mouth), but also, on account of its informing us of the existence of objects at a distance, out of the reach or range of the other senses, or inappreciable by them. It thus greatly enlarges the boundary of our knowledge of external things.

IV. SIGHT OR VISION.

1. *The organ of this sense.*—The eye is the organ of sight. The rays of light proceeding from an object, on reaching the eye, first pass through the *cornea* and *aqueous humor*, and are admitted into the chamber of the eye through a small opening in the *iris*, called the *pupil*. From this point the rays pass on through the *crystalline lens* and the *vitreous humor* to the *retina*, which is a fine network expansion of the *optic nerve*, embedded in the black pigment of the *choroid coating*, in the back part of the eye. The rays of light from the

different parts of an object proceeding in straight lines cross each other on their entrance at the pupil, and slightly refracted, or bent inwards, in their progress through the eye, form a diminished and *inverted picture* of the object on the retina.

2. *Conditions of vision.*—The susceptibility of sight resides in the retina, and all that is required for producing perfect vision in a sound eye, is, that a given amount of light should proceed from an object and be formed into a distinct image upon the retina. To secure this, the eye has certain powers of adjustment, such as contracting and expanding the pupil, in order to let in less or more light, and perhaps, of changing the form or the position of the crystalline lens, so as to secure the distinctness of the image. These powers of adjustment, however, are quite limited. A great excess or deficiency of light, or an unusual convexity or flatness of the eye, cannot be remedied by any power of adjustment which it possesses, though the latter defect may be in certain cases by external appliances, as by concave or convex glasses.

3. *What vision is.*—Our consciousness of an affection of the optic nerve is vision, just as our consciousness of an affection of the gustatory nerve is taste. The light falling upon the retina from an object produces in it a certain change or modification, varying in the different parts of the nervous expanse, according to the quality and quantity of the rays, and this affection reveals itself as a pictured outline. That the organ is thus affected we know from observation, and that it is this organic affection of which we are directly conscious, and not the external colored objects, is evident from various considerations, and especially from the

fact, that light proceeds from a body to the eye, and is seen, and can be seen, only when it reaches the eye; i.e., it is nothing to us till it becomes an organic affection. Hence, sight or vision, in the first instance, and without the elements derived from experience, is simply the consciousness of an affection of the visual organ.

4. *Color, as apprehended by us, is a mere sensation.*—Consequently, color, as far as it is directly apprehended by us, is a mere sensation. It is merely the recognition in our organism of an extended nervous expanse as colored. As to the nature and character of a sensation so elusive and so much under dispute among philosophers, I gladly avail myself of the following clear, and, to me at least, satisfactory, statement of Sir W. Hamilton * on the subject.

5. *Remarks of Hamilton.*—“I hold that color, in itself, as apprehended, or immediately known to us, is a mere affection of the nervous organism; and therefore, like the other secondary qualities, an object, not of perception, but of sensation proper. The only distinguishing peculiarity in this case, lies in the three following circumstances:—

“(1.) That the organic affection of color, though not altogether indifferent, still, being accompanied by comparatively little pleasure, comparatively little pain, the apprehension of this affection, *qua* affection, i.e., its sensation proper, is consequently always at a minimum.

“(2.) That the passion of color first rising into consciousness, not from the amount of the intensive quantity of the affection, but from the amount of the extensive quantity of the organism affected, is necessarily apprehended under the condition of extension.

* Wight's Hamilton, p. 431.

“(3) That the isolation, tenuity, and delicacy of the ultimate filaments of the optic nerve afford us minutely and precisely distinguished sensations, realized in consciousness only as we are conscious of them as out of each other in space.

“These circumstances show, that while in vision, perception proper is at its maximum and sensation proper at its minimum, the sensation of color cannot be realized apart from the perception of extension: but they do not warrant the assertion, that color is not, like the other secondary qualities, apprehended by us as a mere sensorial affection.”

6. *Fallacies of vision.*—According to the above view of vision, the various *fallacies of sight*, as they have been called, vanish at once; such as the crooked appearance of a straight stick when thrust into the water, the apparent suspension of objects in the air in *mirage*, the small apparent size of the sun and moon, and other large bodies, which are far removed from us. As vision is merely the apprehension of the actual affection of the organ, there is no deception in these cases. The visual image is precisely what it appears to be. The actual form, size, position, etc., of the object represented by the sensation is reached only by the co-operation of the other senses and powers.

7. *Vision leads to a knowledge of external objects.*—But vision, though in itself a mere sensation, is not practically confined to the subjective affection. As in the case of other sensations, we soon learn to infer its cause. As we are conscious of the affection only when the eyes are open, we at once infer that the cause is without. On further experience, we learn that the affection varies as we turn in different directions, and

that the same affection recurs when we occupy the same position and our eyes are in the same direction. The unavoidable inference, therefore, is, that each affection has a particular cause, lying in a particular direction from us. Coming to this conclusion, we soon verify our conjecture by moving in different directions, and, by means of our other senses, identifying as their cause certain objects appreciable by the other senses. Having thus established as the cause of visual affections, certain external objects in a given relation to us, we come to take a visual affection as the sign of the existence of a corresponding object in a particular direction and relation to us,—nay, transfer the appearance directly to the object in space. The rest is learned by after-experience, particularly by the *motion* and *scrutiny* of the eyes.

8. *We learn the relative position of the different parts of an object to us by the motion of the eyes.*—We not only learn by experience that the objects of vision are external to us, and the general directions in which they lie from us, but by the motion of the eyes over an object we learn the exact *relative position* of its different parts towards us. The picture of an object on the retina, as we learn from science, is inverted relatively to the object without. But this we can never become conscious of, or deduce from our own experience, only as the actual position of the different parts of the external object to the eye are learned by the use of the sense itself. And in learning this, and just as fast and as far as we learn this, we learn, also, as we shall soon see, that, following out the ascertained lines of vision, every point in the object corresponds to its projected image on the retina; so that there never can be any

conscious discrepancy between the position of the different parts of an object and its perceived affection or image. The law of *visible direction*, which shows the position of an object and its image on the retina to differ relatively, shows them to agree actually.

9. *The law of visible direction.*—How, now, do we learn this law of visible direction? Although we receive the general image of all parts of an object within the field of vision when we open the eyes before it, still, it is distinctly and satisfactorily seen only as every part in succession is scrutinized by the eyes, with the axes more or less concentrated upon it. And all objects presented to our view are thus scrutinized by the eyes, which are constantly traversing in concert every object before them. By this scrutinizing movement of the eyes, up and down, to the right and left, over an object, the relative position of every part of it to the eye is learned, and we soon come to understand that each point of an object is seen in the direction of a perpendicular to that point of the retina upon which the rays from it fall, which is called the *law of visible direction*. Thus the image, at one end of the complement of rays, corresponds throughout to the object at the other, and any perceived discrepancy is impossible.

10. *How we learn the form of objects by sight.*—It is by the active and scrutinizing use of the eyes, also, that we learn to judge of the *form* of external objects by sight. As the light from all parts of an object reaches the eye in straight lines, we cannot, of course, directly see the *form* of any thing, except in one dimension; i.e., as a mere surface outline, just as it is pictured upon the retina. All that we can see is different varieties and shades of color covering a certain expanse.

A solid body is discovered to be such by the sight:—in part, from the different degrees of brightness in the light from the more distant and averted portions and those nearer and more directly before us; and in part, by the varying effort and angle under which the axes of the eyes are concentrated upon the different parts of it, or of the objects which surround it and determine its form. When the object is a solid of such shape and size that no rays of light from it reach the eyes except from the surface towards them, we make out its form from the appearance of surrounding objects.

11. *How we learn to see things single.* —The question here is not, why we do not in looking at an object see two images of it which are *precisely alike*, since we never can, at the same time, see two images of an object precisely alike. But the real question is, why we are not conscious of two images of an object, since two *different* views of it are actually imaged upon the two eyes? This question may be answered in a general way, by saying that it is for the same reason that we hear but one sound with two ears, or feel but one object with two hands; viz., that knowing the object to be one by other means, as well as by the general sameness of the two impressions on the double organ, we have learned to disregard the difference, and are not at all conscious of it unless the attention is specially called to it. Two ears, two eyes, and two hands are given us for the precise purpose of observing opposite sides of things—for enlarging our experience on the right and on the left—but our Creator has abundantly provided by the principle of habit that no confusion shall arise from this beneficent arrangement. And this, perhaps, is an ade-

quate answer; but it may be rendered more convincing by a more precise statement.

12. *A more precise answer.*—From the relative position of the two eyes towards an object, one must always take in a different aspect of it from the other, when they are opened before it. This becomes consciously so to a cross-eyed person, who attempts to use both eyes in looking at an object; also, to any one who receives upon his eyes the image of an object lying beyond some point on which he is steadily fixing his gaze,—the more remote object, in such a case, always appears double. And all objects would appear so to us were not the two images, in ordinary vision, actually brought together and blended into one. Not only do the two images seen in looking at any object necessarily lap on to each other, but as vision is clear and distinct only at those points where the axes of the eyes are more or less concentrated, we are constantly traversing objects from point to point by both eyes in concert, which reduces all to unity. Yet, that we are familiar with the aspect of an object as seen by each eye, and actually combine these two aspects in vision, is evident from the illusion produced by the Stereoscope. By this contrivance, two photographic pictures of a person or thing, such as would be seen were it looked at first with one eye and then with the other, are enclosed in a case, and viewed through two eye-glasses brought near to the eyes. The result is, that the two pictures are combined into one, and we seem to be looking at a single object standing out in relief, as in nature.

13. *How we learn to judge of distance by sight.*—It is by experience, also, that we learn to judge of the *distance* of objects by sight. It is obvious that we do not

directly *see distance*; and this has been proved experimentally in the case of persons born blind and afterwards restored to sight. Such persons are found, at first, incapable of forming any idea of distance by sight.* But we learn by experience to *infer* distance from sight with great certainty. We soon learn that distance greatly affects the brightness of the color and the distinctness of the outline of objects. We are also conscious of a varying muscular effort in adjusting the eyes to see objects distinctly at different distances. From these circumstances, and the intervention of other objects of known size and character, in the field of vision between the eye and the object looked at, we learn to judge quite accurately by sight of the distance of objects from us. And having thus formed a notion of their distance, we infer also their *size*. Thus, by experience, vision, like our other senses, becomes the source of knowledge, of which, at first, it is entirely incapable.

14. *But our judgments from vision suppose uniform conditions.*—It is true, that vision in itself being merely the recognition of the actual affection of the retina, and the knowledge which we acquire by it of the position, form, size, and distance of objects being only inferential, our judgment in regard to these qualities of objects can be relied upon only under normal conditions in the atmosphere, which is the medium through which light reaches the eye. If in passing through this medium the light from any object is bent out of its course, as it often is by a change of density in different strata, the object is not seen in its proper place or po-

* See the account of the young man couched by Chelsenden, Hamilton's Reid, p. 136.

sition, as is the case in *looming* or *mirage*. So a hazy atmosphere, giving an indistinctness of outline to an object near by, while it does not, of course, diminish its apparent size, makes us judge it to be larger than it really is ; since we imagine it, from the indistinctness of its outline, to be farther off than it is,— we allow too much for distance. Bishop Berkeley attributes to this source of illusion the increased apparent size of the sun and moon when seen in the horizon, compared with their apparent size in mid-heaven. But this would seem to be due, rather, as explained by Descartes, to the intervention of objects of *known size* within the field of vision, when they are seen in the horizon, with which these heavenly bodies are brought into comparison, and judged to be larger in consequence, because known to be vastly farther off,— the comparison forces us to magnify the apparent size of the distant luminaries.

15. *But any illusions of sight are easily corrected.*— But these and the like illusions of sight are comparatively few and unimportant, and are either wholly corrected or rendered harmless by experience. They are all explained by a knowledge of the laws of nature, and easy means of correction supplied. Sight thus opens to us a wide and diversified field for perception, and by the cheerful light and varied hues with which it clothes nature, imparts the crowning charm to life.

V. HEARING.

1. *The organ of this sense.*— The ear is the organ of hearing. At the point where it joins the head, the ear becomes contracted to a small tube, across the bottom of which is stretched the membrane that forms

the head of the *tympanum* or drum, which is a cavity containing a succession of bones so arranged as to propagate vibrations most effectively. Below the tympanum is the *labyrinth*, which is filled with a watery fluid, in which the fibres of the *auditory nerve*, the seat of the sensation of sound, are spread out. The external ear collects the vibrations proceeding from sonorous bodies through the air, which are conveyed to the drum through the tube, and from that propagated with greatly increased intensity to the fluid of the labyrinth, and thus to the auditory nerve which floats in this fluid; the vibratory affection of which is recognized by the mind as sound.

2. *Sound is a mere sensation.*— Sound, too, as perceived by us, is a mere sensation. Its immediate cause we learn to be, the vibratory motion of the surrounding air; and its remote cause, the vibratory motion of the particles of some body, which causes the agitation in the air. As the whole movement originates with this remote cause, this is considered the real cause. In determining the direction of a sound and tracing it to its source, we are greatly assisted by having two ears, and the capacity of turning the head in different directions. It is on the fact that we judge of the direction whence a sound comes from the manner in which it strikes the ear, and of its distance by its strength and distinctness, that the art of ventriloquism is founded. The ventriloquist, with some peculiarity, perhaps, in the organs of speech, has acquired such power over his voice, that he is able, aided by an artful direction of the attention of the hearers, to speak in such tones as may seem to proceed from any point he pleases.

3. *Importance of this sense.*— The sense of hearing

is important to us, not only by informing us of the clash of objects, the roar of waters, the agitations of the elements, the cries of animals, the artificial sounds, whether produced for pleasure or utility, but especially as the means of catching the tones of the human voice, and receiving the thoughts of others conveyed to the ear in winged words. Nay, even the exercise of our own powers of speech depends upon our possession of the sense of hearing. The voice can be articulated only as its tones are heard by the speaker himself.

SECTION V.

IMPORTANCE OF THE SENSES.

1. *Comparative importance of the senses.* — Of the comparative importance of the different senses it seems difficult to judge. They are all so important, so necessary, that it is hard determining which is the most so. As of the members of the body in general one cannot say to the other, "I have no need of thee," so of the senses in particular, it is hard to say which we could spare best. Yet, it is obvious that the loss of feeling must be the most fatal, though the loss of sight seems the most deplorable. But it is found, as matter of fact, that the loss of hearing, accompanied, as it always is, by the loss of the power of speech, is a greater obstacle to improvement than the loss of sight, and I doubt if it be not a greater deduction from one's happiness.

2. *Their individual and combined importance.* — But, of the individual and combined importance of the senses, there can be no doubt. It is by them that na-

ture is unlocked and disclosed, being transformed from what would be to us a universal blank to the beauteous thing which it now appears. By Taste her various sapid qualities are elicited — her treasured stores of sweet and pleasant flavors, with their opposites, the bitter, the sour, the acrid, and the nauseous. Smell snuffs up her odors, and Hearing drinks in her harmonies; while under the power of Touch and Sight she discloses her huge masses, her vast distances, her endless variety of forms, all invested with a robe of light, so bright, so cheerful, so variegated, so tinted and beautified, as to defy all imitation, or even description.

3. *The senses collect the primitive materials used by the mind.* — The senses, then, collect the primitive materials, and indeed, the whole mass of materials from without, used by the other powers of the mind. As already remarked, the facts of consciousness, which resolve themselves virtually into the facts of perception, in conjunction with the native truths developed in the process, and inductions and deductions from them, constitute all the knowledge of which we are capable. The means for exerting our higher powers, therefore, and the legitimacy of their results, all depend upon the extent and character of the primitive materials collected by the senses. It is obvious, therefore, in general, that the man who neglects to use his senses assiduously and carefully, can have but little knowledge, and that of a very vague and indistinct character. Without the proper use of the senses, there must always be an indefiniteness, an inaccuracy, an insufficiency in our views, which can be remedied by no other powers.

4. *The sciences are founded upon perceived facts.* — Most sciences are founded upon facts, and of these, all

but mental science, upon facts observed by the senses. And in many, if not in most, of these sciences, the observed facts are the chief thing. In all the branches of Natural History, there is nothing but classification, beyond the collection of facts. And while the collection and proper inspection of these require a vast amount of time, labor, and care, the principle of classification is usually quite obvious, and is generally of itself suggested to the mind during the collection of the materials, if only the senses be properly used in scrutinizing them as they pass under their observation. And even in Natural Philosophy, not excepting Astronomy, the facts are not only the foundation, but a large part of the science.

5. *Even language is based upon the perceptions of the senses.*— And not only so, even language is built very largely upon the knowledge acquired by the senses. The first meaning of most words is physical. A large part of the words of a language, of course, refer solely to things physical—to natural objects, changes, or phenomena. Of the rest, very many, not excepting those referring to mental states, acts, relations, etc., have a physical element as their basis. Hence much of the force and meaning of language must depend upon our having observed the physical objects, facts, changes, phenomena, to which the words refer, or from which they take their coloring.

6. *These elements of knowledge are accessible to all.*— Now it is benevolently arranged by our Creator, that these facts, thus lying at the foundation of all knowledge and improvement, are generally close at hand, addressing themselves to our senses, and soliciting our attention on all sides. We have but to open

our eyes and unseal our senses, to perceive the great mass of them. As a whole, they are so accessible, and even obtrusive, that an ever-wakeful attention will enable even the common man, in connection with his ordinary pursuits and experience, to collect a vast store of them.

7. Importance of cultivating the senses by observation.

— We see, then, how great importance attaches to our early forming the habit of close and accurate observation of all the objects and changes around us. This is the way to cultivate our senses and make them in the highest degree useful to us. The man who forms this habit early and continues it through life, keeping up, wherever he goes, and however employed, a lively wakefulness of attention to what exists and is occurring around him; examining everywhere nature and art, earths, minerals, insects, animals, man, chemical and mechanical processes and arrangements, the aspects of the earth, the sea, and the sky, will acquire a vast store of most interesting and useful knowledge, and have in his possession the materials for making a great philosopher. One thus furnished, only wants an intellect capable of evoking order from the mass, and connecting his materials by the natural threads of classification and law, to become a Cuvier, a Humboldt, a Miller, or an Agassiz.

8. Importance of training the senses in youth. — In conclusion, I cannot refrain from suggesting, as a most obvious inference from what has been said, that more attention should be given to the training of the senses to habits of observation in youth. Parents should endeavor to form the habit in their children, and teachers in those committed to their charge. Observation by

the senses should be a very important branch of instruction in all schools, from the lowest to the highest. Natural objects of all kinds should be examined and analyzed before the pupils, while they are required accurately to note all their peculiarities. And if our schools would adjourn to the fields, *en masse*, for an hour or two each day, and carry on the study of nature there, it would be greatly to the advantage of the pupils, both physically and intellectually.

CHAPTER IV.

MEMORY.

SECTION I.

MEMORY AND RECOLLECTION.

1. *Memory and recollection distinguished.* — Memory is the common undiscriminating term employed to designate the general power of recalling our past experience. But when we speak with precision, it is used only of that direct and ready reproduction of the past, as though it were an ever-present possession. According to its derivation, memory means, *the being mindful of, the having something in mind*. Past events seem to be treasured in the mind and held ready for use, by the memory. Whatever we perfectly remember seems a part of the ready furniture of the mind, — something which we can rely upon for use whenever we need it; so that we have but to turn our attention inward to perceive the objects of memory, just as we have but to open the eye to see outward objects. Recollection, or Reminiscence, on the contrary, recognizes the reproduction of past experience as a process, — as the *collecting again, or becoming mindful again of something known before*. The object is not at once recalled, but has to be sought for. Several steps must be taken before it is reached.

2. *The distinction illustrated.* — Memory and recollection, then, are alike the reviving of past experience,

the one without any conscious effort, the other with more or less effort. In the one case, the object sought for presents itself at once as though it were ready treasured in the mind; in the other, only after more or less search. The face of a friend, the home of our youth, a passage from a favorite author, a familiar tune, or a familiar process, which presents itself distinctly the instant it is wanted, is properly said to be remembered; but the effort to revive a forgotten countenance, or scene, or the mental search to discover, for instance, where we lost some article, is recollection. This is the proper distinction between the words, though not always observed.

3. *A ready and a tardy memory.* —The man who has his past experience so at his command that it comes to him whenever he wants it, is said to have a ready memory, a tenacious memory, a good memory; while the man who can recall but few things without going through a process of recollection and search, is said to have a defective or poor memory. This difference of memory in different persons, is owing partly, without doubt, to an original difference of mental endowment, and partly to a difference of training and mental habits. The ever-wakeful use of the senses, the study of facts, the committing of verbal lessons, the frequent use of knowledge in conversation, and the constant demand made upon one by business for the prompt recollection of details, tend greatly to increase the readiness and tenacity of memory. Whereas, a neglect of facts and details, an avoidance of society and business, and the confining of one's attention chiefly to the study of principles, produce hesitancy and tardiness of memory.

4. *A ready memory often a fatal gift.* — It is this fact,

probably, which has tended to disparage memory as a mental endowment, in comparison with some of the other powers. Great readiness of memory certainly does not imply any very profound culture. Indeed, it rather implies the contrary. And yet, it does not necessarily imply any original defect in the general powers of the mind. The general knowing principle being virtually one, any extraordinary capacity in one power would seem to imply the like capacity in the others. Doubtless a ready memory, as an attractive and striking talent, which, in this form, is best cultivated by miscellaneous and desultory habits, has often proved a fatal gift, preventing all systematic and profound study. Besides, there are unquestionably some cases, where the memory is in excess, just as there are others, where some other power is in excess. But a good mind must have a good memory; though it more commonly assumes, perhaps, in such a mind, especially when well disciplined, the form of recollection, or perhaps I should say, of logical reproduction. Such minds associate their knowledge well, and recall it readily along their accustomed lines of thought. Their knowledge is all gathered around certain general principles, and they can, at any moment, illuminate these with any number of facts and illustrations. But they have very little of that random, desultory power of memory, which usually excites the greatest admiration.

5. *Memory and recollection rarely exist in a high degree in the same mind.*—Memory and recollection, therefore, rarely co-exist in equal degrees—certainly not both of them in eminent degrees—in the same mind. The desultory, practical memory either recalls what it wants, at once, or not at all. It has no settled lines of

association, and no power to trace them, if it had. The philosophical memory, on the contrary, is equally incapable of random efforts. It can recall thoughts only by running along the chain by which they are connected in the mind, until they are reached. The two species of memory are found united in any high degree only in those rare characters, who are at the same time scholars and men of the world, thinkers and actors, men of special, and men of general culture, men of genius and men of sense.

6. *Memory prevails more in youth, recollection in mature age.* — It may be remarked further, that memory proper prevails more in youth, recollection in mature age. Children remember words, facts, events, and all matters of detail, much more readily than adults; but having few extended associations, they have but little power of recollection. Men of mature age, on the contrary, having associated their knowledge more perfectly, depend more upon recollection, and less upon simple spontaneous memory. In old age, the senses becoming duller and the attention feebler, passing events make but little impression upon the mind, and are consequently but very imperfectly remembered, while the experience of youth still remains fresh in the memory, and life again relapses into childhood.

7. *The office of memory according to Hamilton.* — The above account of the relation of memory and recollection is in accordance with the distinction which has commonly been made by philosophers between the two processes. But Sir W. Hamilton, holding to the existence of "latent mental modifications," limits the term memory expressly to the supposed power of retaining ideas out of consciousness. According to

this view, all conscious reproduction of the past is really recollection, which we believe to be the case, and hence that there is only an apparent distinction between memory and recollection,— not, however, that memory is a blind hoarding of ideas.

SECTION II.

WHAT WE REMEMBER.

1. *The object remembered is suggested by something else present to the mind.*— To remember any thing is to be reminded of it, or more exactly, *to be put in mind of it again.* It is the reviving again of a previous knowledge of something. It is not to have a direct present knowledge of any thing in itself, but to have a previous knowledge recalled. The mind, in memory, is not directly occupied with the thing remembered, but with something which suggests it. The external object remembered is never present within the sphere of sense, and is often very far removed from us, both in time and space. The mind, then, must really be occupied with its own thoughts. The thought of the object is suggested by some other thought present to the mind. Or if the remembrance be occasioned by the recurrence of the object itself, still, it is the object in our past experience which is remembered,— the present perception of the object reminds us, at the same time, of a former perception of it, and recalls it as it was then perceived.

2. *Memory pictures out the thing remembered.*— Memory is an imaging out or thinking of something of which we have been previously conscious. If one re-

flects upon his state of mind in memory, especially in recollecting an object of sight, as, for instance, a family circle with which he has been familiar, he will find himself picturing out the whole scene and contemplating it in all its minutiae. As, however, the object or scene, as far as it is distinctly recalled and dwelt upon, is always pictured out with its surroundings, or in its actual connections of time and place, as originally perceived, it does not appear to be in the mind, but in the position of the thing itself; nay, almost the very thing itself. By a law of our nature, as we have already seen, the representation is received as irresistible evidence of our former perception of the object, and by the force of habit, we come to think only of that object. Thus, in the regular operation of those laws of our nature which the Creator has impressed upon it, our knowledge of the past, as far as it goes, becomes as simple, as vivid, and as reliable as that of the present. With this explanation of what memory is, both really and practically, we are prepared to consider, more particularly, what objects are capable of being recalled in memory.

3. *We may thus remember objects perceived by sight.* — It is quite obvious, then, at the outset, that we may distinctly remember objects which have been perceived by sight. Objects of sight being perceived under the illumination of light, and being apprehended as pictured forms, are easily imaged or represented to the mind in memory. A tree, a house, a human form, or any other visible object, stands out in memory, almost as distinctly as in perception. The object remembered is not only as clearly conceived by the mind, but may be as clearly described to another, as if directly perceived.

The mental image being the exact counterpart of the external object or scene, may, of course, be described in the same terms.

4. *Also objects perceived by touch.*— It is universally conceded, too, that we may distinctly remember objects of touch. In the perceptions of this sense, also, the object is revealed as having a definite form and outline, and hence, like the object itself, may be distinctly described to another. The blind man who reads by raised letters, remembers the form of the letters as distinctly as does the man who reads by his sight. But, as most objects of touch are also objects of sight, and, by those who have the use of both senses, are almost always actually perceived by the latter, they are, of course, more commonly recalled as objects of sight than as objects of touch.

5. *So, too, we may remember sounds.*— It is generally allowed, also, that we can remember sounds. The person who, having heard a variation of sounds, as in a tune, repeats or imitates these sounds by his voice or on an instrument, must remember the original harmony. And yet we can form no such distinct image of sound, as we can of an object of touch or sight, and hence a sound cannot be adequately described to another, except by repeating it, or by a series of conventional signs, as musical notes, which have come, by usage, to have a given significance, like language. Still, sound being a particular phenomenon to the mind, possessing a specific character or marks, must be susceptible of reproduction in memory. Indeed, as a particular local affection of the organ of hearing, as a succession of impulses on the ear, it is not without physical elements, which are capable of being likened to objects of sight and

touch; as, for instance, to a succession of waves, a rising or falling, a moving or shaking, of an object in space. At all events, we know that sounds are remembered, and that a musician can not only repeat a complicated variation of sounds which he has heard, but run over them in thought, without any accompanying sound.

6. *Nor can it be denied that we remember odors and flavors.*—And if it be admitted that we remember sounds, I do not see how it can be denied that we remember odors and flavors. These, too, as specific affections of the organs of smell and taste, are not without physical elements enough to give them local associations, and constitute the basis of a veritable representative image. At all events, they are specific phenomena to the mind, susceptible of such mental associations as to be capable of being recalled. And there is abundant evidence that we do recall them even by their physical associations, as in the smacking of the lips, the snuffing up of the air, etc., which are often witnessed in persons when referring to certain tastes or smells. All recognize them, too, on their recurrence, which is virtually an act of memory.* The recurrence of the thing itself is substituted in place of the usual related thought. But the immediate recognition of it as what has been before perceived, shows the mind not to have lost its former knowledge of it.

7. *Feelings, etc., may also be remembered.*—We may remember, also, all the various local affections, sensations, feelings, and pains, of which we are conscious, as well as the various unlocalized emotions and states of

* "If I be not mistaken, we must recur to repetition as an ultimate principle of reproduction (i.e., in memory)." — *Hamilton*.

the mind; such as, on the one hand, the feelings occasioned by heat, cold, stimulants, narcotics, pressure, disorganization, disease, etc., and on the other, the emotions of fear, joy, compassion, and the convictions of truth, duty, etc. Many of these, as affections of certain organs or parts of the body, or being attended with certain physical perturbations, are remembered under local relations, and all of them are recognized at once, on their recurrence.

8. *Even a process of reasoning, as a series of steps, may be remembered.*—In a certain sense, too, we remember processes of reasoning. Reasoning itself, however, is not, either as a new or as a repeated process, mere memory. Reasoning proceeds by the assent of the understanding to the truth of a series of propositions, and in order to make it reasoning, there must be the same assent of the mind at every step, on its repetition. We may remember that we have before given our assent to the truth of a proposition, or a series of them, but unless we now give it, also, it is no reasoning to us. But the whole process, as consisting of a series of propositions assented to, or of steps taken by the mind, may be made as much an object of memory, as any thing whatever.

9. *This illustrated.*—Thus it is that the public speaker fixes in his mind beforehand the chief points or propositions which he wishes to establish in his speech, and recalls them in order, as he advances, and establishes them, too, by subordinate propositions, also pre-arranged. Here, doubtless, the memory is aided by language, and the propositions may be, in part, suggested by their logical dependence. In like manner, also, the mathematician, by going over a demon-

stration, fixes the successive steps of the process in his mind, so that he can recall them at any time. In this he is greatly assisted by diagrams or other symbols. The geometric construction, or other combination of symbols, is made to represent the process, and recall it whenever it is itself recalled.

10. *In short, we may remember any state of consciousness.* — In short, it is evident that we may remember any simple or complex state of consciousness, and any mental experience whatever. There are none of them that are not so associated with something else, either external or internal, as to be recalled by the associated object or thought, and they all appear as old acquaintances on a fresh recurrence. Indeed, unless one is the most empty of nominalists, he must believe that every thing which has a name is recalled by the recurrence of that name, which serves as its representative, and often as a sort of description.

11. *But it is admitted that things visible and tangible are the most readily remembered.* — But while all this is true, it is admitted that things visible and tangible are the most easily and vividly remembered. Not only can they be distinctly imaged by the mind, but they are capable of much more varied associations. The gradations and analogies among forms, places, and colors, are so numerous and obtrusive, that objects possessing extension, position, and color, are readily associated with a greater variety of things than any others, and consequently are more easily recalled. Hence, as much of our knowledge as possible should be introduced through the senses of sight and touch, or at least be represented by objects which address themselves to these senses. And here, again, we see the importance

of diagrams, models, and symbols of all kinds, in imparting knowledge. The mind not only apprehends knowledge more distinctly when thus presented, but retains it better.

SECTION III.

HOW WE REMEMBER.

1. *What is here aimed at.*— My object here is, as in the corresponding section under perception, simply to give a criticised account of the process of memory. Like other mental processes, memory is not wholly a mystery. It may be traced and rendered intelligible up to a certain point, though it is not pretended that the whole process can be unfolded and explained. As perception was found to have certain fixed antecedents, and to be far from that vague arbitrary notion of external objects which it has often been supposed to be, so memory will be found to be far from a blind, random act.

2. *Memory is always a sequence to some antecedent thought.*— While perception is caused by the presence of an object within the sphere of sense, memory is caused by the presence to the mind of some thought or thing associated with the object remembered. An object is perceived only while it is actually present to sense, but it is regularly recalled by the recurrence of other thoughts, according to laws to be named hereafter. In the simplest act of memory, as well as in the most extended process of recollection, there is always some antecedence in the act. We do not remember at random, nor merely by a determination of the will to

do so. We may enter upon a train of recollection, in consequence of having determined to do so, but we can only reach the remembrance of the object sought for, by meeting in our search with some related thought or thing which suggests it.

3. *Illustrated in the simplest case of memory.*—To commence with the simplest case; I remember a familiar friend, in whose society I have often been, and have been in it, perhaps, within a few hours. Do I do this at random, and without the antecedent occurrence of something leading to the recollection? Certainly not. Either some one speaks of him, and thus awakens my recollection of him, or some object or thought associated with him occurs, and reminds me of him. And so in all similar cases. Familiar objects—and this, indeed, is what constitutes their familiarity—being more largely and intimately associated with our experience and the ordinary routine of life, are naturally much more easily and frequently remembered, since vastly more thoughts and things must be continually occurring to remind us of them. So, too, things committed to memory, or with which we charge our memory, as we say, are only more intimately and specifically associated with certain things likely to recur and thus recall them. Such special association is accomplished by thinking of the objects to be associated protractedly or intensely together.

4. *Illustrated by the committing of a lesson.*—Take the case of a lesson to be committed to memory for recitation. If it is to be committed verbally, the position of every word upon the page is carefully noted and associated with its place, and with the preceding and succeeding words. The call to recite recalls the page and

the starting-point on the page, and thus the first word, which, as adjacent to it, recalls the next place with its word, and so on to the end. But if only the ideas are to be recited, we associate the successive *ideas* with the successive parts of the page, or with each other, so that one recalls the other according to the pre-arranged order of association ; and the ideas, in turn, recall the appropriate words for expressing them.

5. *It must be so even in instances of the most ready memory, or else the process is automatic.*— And if it be said that there can be no such process of association and recalling in cases of the most unhesitating and rapid memory, such as the repeating of a familiar passage of poetry, or the playing of a familiar tune, I reply that we cannot be quite certain of this. Custom has a wonderful power in obscuring the real steps taken by the mind in any process. But if, in such a case, each word and note is not recalled by its association with the preceding, or by some other association, then there is no proper memory in the case, but the process, by frequent repetition, has become purely automatic (See chap. 2. sec. 1., 3).

6. *What is meant by charging the memory with any thing.*— Or take the case where we specially charge the memory with any thing. Do we really commit this to the memory with special care, as to one of the compartments of the mind, for safe-keeping, till called for? Not surely in any literal sense. We rather associate it, or think of it with special attention, in connection with something which we suppose will be the most likely to attract our notice, or fall in our way, about the time we wish to recall the object to be remembered, and thus remind us of it. Suppose, for in-

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stance, I have written a letter, which I wish to drop into the post-office at a certain hour. I either place it where I expect to be at that time, so that it may catch my notice, or I think of it in connection with some object, place, or duty, which is to occupy my attention at that hour, and will thus remind me of it. Of the same nature are all the little arts of memory which we daily practise. They are all merely pre-arranged associations for the purpose of recalling some object to memory. The string is tied upon the finger, that, having been first associated with some object by thinking of them together, it may recall it as often as seen or felt, which, from its position, is likely to occur frequently.

7. *A case of consciously voluntary recollection.*—Or take a case of consciously voluntary and determined recollection. Suppose I have lost my purse on a journey, and wish to ascertain in what part of the journey I lost it. By a process precisely like that already described as employed in reciting a series of words, I retrace the whole journey in imagination, with all its attending circumstances, searching especially for occasions which required the expenditure of money, that I may learn where I had the purse last. Every bridge and ferry and tavern are recalled with all possible distinctness, to see if they will yield any associated images of money paid out. Thus, the whole journey is first run over in thought, for the purpose of reviving the particular parts of it, and then these particular parts or objects are closely scrutinized, the mind passing from one associated object to another, in the hope of reaching the one desired.

8. *Memory, therefore, always consists of more than one step.*—It is evident, therefore, that memory is a

process always consisting of more than one step. It is not a *direct* looking of the mind to an object or its image, but the *thought of an object, suggested by the presence or thought of some related object*. And if this be so, memory cannot be, as has sometimes been supposed, an inspection by the mind of impressions on the brain, or even a retaining of impressions or ideas by the mind itself. Ideas are not hoarded in the memory, but are reproduced as needed, according to established laws of suggestion. Memory is strictly a process of mental suggestion or reproduction. By an original law of the mind, ideas holding certain relations to each other suggest or recall each other,—the mind, on the recurrence of one, reproduces the other by a primary law of the intelligence.

9. *The mind is not wholly passive in the act.*—The mind, evidently, is not wholly passive in the process, barely contemplating a series of physical changes in the sensorium. It obviously does something. It makes the successive representations according to established laws of suggestion. The physical view of memory, held by Hobbes and Hartley, which refers the reproduction of ideas to the repetition of a series of physical changes in the sensorium, which, having been connected with each other before in our experience, succeed each other spontaneously afterwards, is scarcely conceivable, and is open to objection on all sides. One fatal objection is, that the recurrence of objects or thoughts not only recalls such others as have been previously in the mind with them, but those, also, which are merely *like* them, as where a face which we never saw before recalls, by its likeness, the face of some friend. Though not without its difficulties, the hypothesis of an actual

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reproduction by the mind of the representations in memory, is every way preferable to this physical view.

SECTION IV.

LAWS OF MEMORY (ASSOCIATION OF IDEAS).

1. FIRST LAW.—*An idea (thought, thing), by its recurrence, tends to recall its former existence in the mind.*—Here there is but a single intermediate step taken in reaching the object to be remembered, and as this is the actual recurrence of the thought (or thing) itself, this may be called *direct* or *simple memory*.

2. *This is commonly called recognition.*—This is what is commonly called *recognition*, but is, to all intents and purposes, memory. A past knowledge is excited by a present thought, and, although that thought is but the present perception of the same object, or the present consciousness of the same mental state which is remembered, the knowledge recalled is not the less than that of a past experience, than in other cases of memory. The only difference is, that the present thought of an object awakens a past thought of it, instead of its being awakened by the thought of something else. Illustrations of this law are of constant occurrence; as, where a friend, who has not been seen, perhaps, for years, is immediately recognized when he comes into our presence; or a flavor, perceived long before, is remembered as soon as tasted again; or an emotion, a judgment, or any mental experience, is recalled by its recurrence.

3. SECOND LAW.—*Ideas (thoughts, things) like each other, in any respect, tend to suggest each other.*—

This includes all likeness of thoughts (or things) in themselves, whether the likeness be direct or analogical. It does not, however, embrace likeness of circumstance, or in the surroundings, as of time and place.

4. *Illustrations of the law.*— Instances of ideas recalling each other from a direct likeness, are such as the sight of a face, an animal, or other visible object, reminding us, by some point of resemblance, of one which we have seen before; or the awakening of the recollection of some former sensation, emotion, etc., by the tasting of a flavor, the smelling of an odor, or the experiencing of a desire or emotion, like in kind to one before perceived or experienced. Thus a single resembling feature in a face often awakens the recollection of an absent friend, and a single resembling strain in a tune, the recollection of a once familiar air. Instances of ideas with an analogical likeness which recall each other, are such as the decay of plants reminding one of death, pensive music inspiring solemn thoughts, and vast solitudes suggesting ideas of God and of eternity.

5. *Pre-arranged associations according to this law.*— So, also, we may pre-arrange associations on the principle of likeness. Suppose a man, by the name of Phillips has red hair, and I wish to form an association which shall enable me to recall his *name* at any time. The idea of *fire*, as having a likeness to the color of his hair, will recall this personal aspect of him, and I shall thereby immediately reach his name, if I can only connect his name and that of fire by a like association. I further observe, then, that the two words commence with the same sound (*Ph = f*), and thus the association is completed on the principle of likeness. So I might

recall the name Walker, by establishing an ~~ass.~~ ^{one of the} between it and the process (*walking*) performed by ~~the~~ feet, and thus think of the feet when I wished to reach^d the name.

6. THIRD LAW.—*Ideas (thoughts, things) related by Contiguity of place and time are apt to suggest each other.*—This law includes all of cause and effect, which can properly be said to be the ground of recollection; viz., the simple antecedency and contiguity of particular events.

7. *Remark of Hamilton.*—“We must admit,” says Sir W. Hamilton,* “that the *integrant parts* of an *integrate whole* suggest each other as co-adjacent. The thought of any thing which we have previously known as such a part, is not usually, when reproduced, viewed as an irrespective object, but tends to call up the other, and in particular, the proximately adjacent parts, jointly with it constituent of a certain total object.” And not only so, but whenever two or more thoughts have come into the mind at the same place or time, the recurrence of one tends to awaken the other. Thus the sight or thought of a tree which I once saw shivered by lightning, recalls the appearance of the flash, the cloud, and all the circumstances as they were then perceived. In like manner, the sound of a native air in a foreign land reminds one of home, where it has been heard so often before.

8. *Illustration of the law.*—And to continue the illustration of the law, it is on this principle that the name of a person or place recalls the individual or locality, or the reverse. The name and thing have been

* Fragment on *Mental Association*. Appendix D ** to Reid's Works.

This incl^r perceived in conjunction, that one recalls the them^s. And here we see a reason why we remember best the places which we have personally visited, and by so doing have most thoroughly associated the actual appearance and surroundings of the places with their names. And hence, again, we see why the names of places should always be printed distinctly on maps in connection with the localities which they designate, that they may always be perceived together when the map is examined, and thus recall each other more readily, when one is named, remembered, or recurs in any way.

9. *Further illustration.*—It is on this principle, also, that the sentiments and tone of the mind are so much affected by time and place. On the Sabbath and in the house of God, the mind naturally takes on the tone which it has so often experienced there before; while, for the same reason, it is exhilarated with lightness and gayety in the ball-chamber or the festive hall, and stirred to its lowest depths on the storied field of great deeds, and in the presence of the mementos of past greatness and glory.

10. *FOURTH LAW.—Ideas (thoughts, things) standing in the relation of Contrariety or Contrast tend to recall each other.*—Much of our knowledge comes into the mind in the form of contrasts, and, coming in thus, is naturally recalled in the same order, according to the preceding law. In our experience, we meet with the good and the bad, the rich and the poor, the high and the low, the bitter and the sweet, day and night, hill and dale, woodland and prairie, land and water, the hovel and the palace, and all the ten thousand varieties

and contrasts of life. Now, by this law, ~~one of the~~ ^{memor} objects in any of these contrasted pairs occurring, tends to recall the other ; as, for instance, the warmth and comfort of our own home is likely to remind us of the dreariness and discomfort of the hovel of the poor.

11. *But perhaps this is only a form of the logical law of relatives.* — But perhaps this law should be regarded as merely the carrying out in things contingent of the general law of relatives. The relation here is only more loose and contingent than that between real relatives, which cannot be thought of apart, or at least, always seem to imply each other when reflected upon ; such as, substance and accident, cause and effect, part and whole, true and false, parent and child, debtor and creditor, good and bad, simple and complex, equal and unequal, like and unlike, etc. As these terms mutually imply each other, they necessarily come into the mind together, but with scarcely more certainty on the repetition than when first thought of. Thus the apprehension of true relatives is rather a law of thought than a law of memory proper. But in those looser and more general contrasts, where both terms are not necessarily thought together, and where, therefore, their connection in thought may be, and often is, the result of casual association, their coming into the mind together may be ascribed to the memory.

12. *Fifth Law.* — *Ideas (thoughts, things) suggest each other, not merely by force of the above relations among themselves, but in proportion to the relation of interest in which they stand to each mind.*

13. *This is merely a principle of variation in the application of the preceding laws.* — This is merely a law

~~of preference~~, not a new principle of association. In practice, association and reminiscence, though always in accordance with the preceding laws, do not, in different individuals and cases, always go through the same line to reach the same end. They start from different points, and take different tracks, according to the temperament, habits, circumstances, or moods of different minds, or of the same mind at different times. The variations in the habits of memory in different persons and on different occasions, and the causes of these variations, are well stated by Vives,* from whom I translate the following:—

14. *Remarks of Vives on these variations.*—(1.) “All do not have a memory for all things alike. Some remember words more easily, and some things; as Hortensius is said to have excelled in the former, Themistocles in the latter. Others remember more readily and perfectly things curious, others things natural and simple, others public, others private, affairs, others what is old, others what is new; some their own things, some what is another's, some virtues, some vices,—each according to his particular genius, and as his attention is attracted more readily by this or that.

(2.) “The natural organization and temperament affect the memory very much, as is seen in the case of those whose wonderful power of memory is celebrated in history—such as Themistocles, Cyrus, Cineas, and Hortensius.

(3.) “Those things settle deeply into the memory which are originally received into the mind attentively

* One of the commentators on Aristotle, quoted by Hamilton in his Fragment on Association.

and with care. Hence it often happens that men of the greatest genius and largely endowed with memory, do not remember so many things as those inferior to them in these gifts, because they see, read, and hear so inattentively.

(4.) "When any feeling or emotion is connected with the first perception or recollection of any thing, it is afterwards remembered more easily, promptly, and for a longer time. Thus, the recollection of those things is the most permanent, whose entrance into the mind is accompanied with the greatest joy or grief. Hence it is the custom, in some nations, in establishing the boundary between fields, to flog the boys who are present, that they may recollect the boundaries more firmly and permanently.

(5.) "The memory is greatly strengthened by the frequent use of, and meditation upon, our knowledge. For by this means it is made at the same time more ready for receiving, more capacious for holding, and more tenacious for retaining knowledge; nor is there any faculty of the mind which more needs culture.

(6.) "We remember those things more readily, provided we give our attention to them, which are received by the mind when unoccupied by other things, and in an undistracted state. On this account we remember longer and more perfectly what we have seen and heard in our youth; for the mind at that period is free from cares and thoughts. In youth, also, we give better attention to things, since at that age we admire all things as new, and what excites our admiration is observed more carefully, and descends more deeply into our minds."

15. *These variations are not, properly, laws of memory.* — The variations of memory, from these and the like circumstances, have sometimes been called the *secondary laws of memory*. They are not, however, properly, laws of memory at all, but only the grounds or circumstances which determine the application of the above general laws in particular cases. Thoughts are always associated and recalled according to those general laws; but the particular resemblances, contrasts, etc., according to which the associations are made, differ in different cases, and are determined by the age, business, mental habits, etc., of each individual.

16. *Illustrated from the case of an old Lutheran divine.* — Thus, an old Lutheran divine (quoted by Hamilton), naturally regarding the pope of Rome as a monster, and familiar with the interpretation which makes the Apocalyptic Babylon only a mystical representation of papal Rome, reaches the recollection of Babylon by a chain of association starting with the thought of the *hydra*, the monster killed by Hercules. Thus: “The thought of the *hydra* reminds me of the *pope*, the memory of him, of *Rome*, and the memory of *Rome*, of *Babylon*.” An astronomer, on the contrary, from his habits of association, might reach the memory of Babylon from an observation of the stars, since the Chaldeans, who lived at Babylon, were among the earliest cultivators of this science.

17. *Illustrated from the case of the merchant.* — So, too, a merchant, with large risks at sea, is reminded of storms and shoals and other dangers to navigation, by what has no tendency to remind others of them; as

Shakspeare, the greatest dissector of the thoughts, as well as of the hearts of men, so well represents, in the opening scene of the Merchant of Venice :—

My wind, cooling my broth,
Would blow me to an ague, when I thought,
What harm a wind too great might do at sea.
I should not see the sandy hour-glass run,
But I should think of shallows and of flats ;
And see my wealthy Andrew dock'd in sand,
Vailing her high-top lower than her ribs,
To kiss her burial. Should I go to church,
And see the holy edifice of stone,
And not bethink me straight of dangerous rocks ;
Which touching but my gentle vessel's side,
Would scatter all her spices on the stream ;
Enrobe the roaring waters with my silks ;
And, in a word, but even now worth this,
And now worth nothing ?

18. *Lines of association to be fixed in our thinking.*— As the mind in reminiscence must start from some initial point and follow some established order of association, it is necessary to fix these in our thinking, if we would remember well. In mathematics, and other matter, which, in any given case, scarcely admits of more than a single arrangement of the subordinate parts, there is no occasion for a special pre-arrangement in the mind. If once understood, the parts are already arranged in the only practicable order, and in an order in which they may, at any time, be recalled by their logical dependence. But most subjects are of such a nature as to admit of various orders of arrangement among the different ideas pertaining to them. These, in order to be remembered readily, must be specially pre-arranged in our minds, according to the order most congenial to each one's particular mode of thought.

Hence the following directions for fortifying the memory from Aquinas :—

19. *Remark of Aquinas.* — “Matters which we would remember well, we should *first* endeavor to arrange in some appropriate order; *secondly*, we should profoundly and attentively consider them; *thirdly*, we should frequently run over them in their order, in meditation; *fourthly*, we should establish a proper point of departure.”

20. *Reminiscence is both voluntary and involuntary.* — Reminiscence is either voluntary or involuntary,— *voluntary*, when, by an effort of the will, we set ourselves deliberately to search after some idea which we are in want of; *involuntary*, when some remote idea comes suddenly into consciousness without any search for it. To illustrate the nature of each, I subjoin a few observations and illustrations from Aristotle and others, to be found in Hamilton’s fragment on memory.

21. *Remark of Aristotle.* — “Reminiscence,” says Aristotle, “takes place, in virtue of that constitution of our mind, whereby each mental movement is determined to arise as the sequel of a certain other. When, therefore, we accomplish an act of reminiscence, we pass through a certain series of precursive movements, until we arrive at a movement, on which the one we are in quest of is habitually consequent. Hence, too, it is that we hunt through the mental train, excogitating what we seek, from its concomitant in the present or some other time, and from its similar, or contrary, or co-adjacent.”

22. *Remark of Longinus.* — “For as dogs,” says Longinus, “having once found the footsteps of their

game, follow from trace to trace, deeming it already all but caught; so he, who would recover his past cognitions from oblivion, must speculate the parts which remain to him of these cognitions, and the circumstances with which they chance to be connected, to the end that he may light on something which shall serve him as a starting-point, from whence to follow out his recollection of the others."

23. *Example of involuntary reminiscence from Hobbes.* — A fine example of involuntary reminiscence is given by Hobbes in the *Leviathan*: "In a discourse of *our present civil war*, what could seem more impertinent, than to ask, as one did, what was the value of the *Roman penny*; yet the coherence to me was manifest enough. For the thought of the *war* introduced the thought of the *delivering up of the king to his enemies*; the thought of that brought in the thought of the *delivering up of Christ*; and that again, the thought of the *thirty pence*, which was the price of that treason; and thence easily followed that malicious question, and all this in a moment of time; for *thought is quick*."

24. *Mnemonics.*—As to artificial systems for aiding the memory, as Mnemonics, they are of very limited application at best, being scarcely applicable to any thing but figures, and are all in the wrong direction; since the associations are almost entirely arbitrary, and the system of symbols, though perhaps somewhat more easily remembered than the things represented by them, are not only of no value in themselves, but even nonsensical.

25. *We cannot control the sequence, but only the lines of association.*—Reminiscence, as we have seen, is in part, involuntary, and always follows by a necessary

sequence, when the line of association is hit upon. When the association is once established, we cannot control the sequence. But the lines of association are, to a great extent, under our control. These we may pre-arrange, and by purity and uprightness of purpose and life, may keep our associations also pure and right. Besides, when wrong thoughts are suggested to us by association, we are not obliged to entertain them, any more than when presented by the senses; much less are we obliged to act upon them.

SECTION V.

ASSOCIATIVE AND LOGICAL THOUGHT.

1. *Reminiscence and reasoning distinguished.*—Reminiscence, as we have seen, is a movement or progress in thought from one particular to another, sometimes voluntary, and sometimes involuntary. In like manner, also, logical thinking is a discursive movement through a connected series of ideas. But logical thinking is chiefly, if not exclusively, voluntary. Besides, logical thought, or reasoning, proceeds by ideas as contained by and containing each other, respectively; whereas reminiscence proceeds by ideas only *contingently connected*, or associated, according to certain laws of mental suggestion, not as contained one under the other, or necessarily implying each other. Association, then, proceeds by contingent relations, reasoning by natural or necessary relations. The latter is a much higher kind of thought, as being regularly voluntary, and determined only by a perceived dependence among ideas.

2. *The logical order of thoughts.*—Among the ideas

pertaining to any subject, there is a certain order to which the intellect assents as fit, appropriate, or true, as opposed to the casual order in which they occur in the promiscuous experience of life, and in which they are remembered. This is their natural order, or when the inquiry is after truth, their logical order. Whenever our thoughts on any subject are so arranged, that the intellect admits the *sequence* of one from the other, as where they stand related as means and end, premises and conclusion, cause and effect, part and whole, etc., they are arranged in their logical order. Ideas so arranged are not so much a subject of memory as of thought. When viewed in these relations, the process of passing from one to the other is logical, not associative. The mind which feels the force of the reasoning traces the process logically the first time it goes over it, and equally so, though with increased rapidity and ease, at all subsequent times.

3. *Reasoning is a subject of memory in its outward relations.*—Still, as remarked in a previous section, when the steps of a reasoning are once drawn out, they may, in their merely outward relations, be made matter of memory, and thus a semblance of knowledge be obtained, instead of the reality. For, besides that reminiscence is vastly less reliable for recalling the steps of the process, than logical thought, the mind is only burdened by a succession of associated points, instead of being enriched by a series of dependent thoughts leading to some important conclusion. Hence so much importance attaches to our arranging our thoughts on all subjects as much as possible in their logical order, that they may become matter of inspiring thought, rather than a mere dead weight of details upon the memory.

4. *All science is arranged in the logical order.*— And it is surprising how large a part of the materials of thought may be thus arranged. All science naturally arranges itself thus. The treatment of any subject becomes a science, only as its materials are arranged in their *knowable* order, which is their natural or logical order. The materials of every science must be arranged under the relations of means and end, premises and conclusions, media and proof, part and whole, cause and effect, or of some other necessary or mutually implied relations.

5. *History may be so arranged to a considerable extent.*— And even history has been said to be but “philosophy teaching by examples.” At first its materials seem to be only a confused mass of facts, and such they probably always remain to most minds. But when profoundly studied by a mind of a philosophical turn, they soon begin to marshal themselves as causes and effects, principles and illustrations, means and ends, and the like. History, when understood in its internal nature, is not merely a succession of events connected by the thread of time, but a dependent succession, connected by the thread of thought.

6. *So may even geography and much of the common experience of life.*— So, too, of geography and the daily experience of life, much is capable of being connected by a thread of dependent, and not merely associated thought. We have no occasion to remember that large cities are upon the coasts, rivers, and the great channels of communication; we know that in the nature of things they necessarily must be. For their particular locations on these coasts, etc., and their individual names, we rely upon memory, as we must for all indi-

vidual, isolated facts. But in all the great subjects of study and attention, there is an internal connection of parts, an underlying theory, which really explicates the whole nature of the subject, and which is traced by thought rather than by memory.

7. *Incoherence of thought an evidence of a diseased mind.*— As the result of the laws of association and logical thought, the ideas of the mind, in a healthy state, always have a certain order and coherence about them. Any considerable degree of incoherence in the thoughts is always taken as evidence of a diseased state of mind. Insanity is but a wild incoherence of thought, and the ravings of the maniac only a setting at naught of the ordinary laws of associative and logical thinking.

SECTION VI.

IMPORTANCE OF MEMORY.

1. *All our faculties are necessary for the completeness of knowledge.*— Absolutely, memory is as indispensable to the general purposes of thought and of life as any other faculty. No faculty can be dispensed with; they are all necessary for the acquisition, the retention, and the arrangement of knowledge. The facts received by the senses are preserved by the memory, and arranged and reasoned upon by the other faculties. The loss of either of the faculties would be fatal to the completeness of knowledge. Indeed, it is not quite clear that any one of the faculties can act without the co-operation of some of the others. At all events, it is certain that in our mature experience, not

only does one sense greatly assist another, but one faculty, also, another. Still, the different faculties have different, and, in the main, distinct offices to perform, which must relatively, at least, differ in importance.

2. *But relatively memory is inferior to perception.* — Relatively, then, memory is inferior in importance to perception. It is not, like perception, a receptive faculty. It does not, like that, furnish the primitive materials of thought, nor indeed, any original materials. It is simply the faculty of retaining or recalling what has been furnished by the senses and our internal experience. We might have a passing knowledge of facts without memory,* but without perception, we could have no knowledge at all. Memory is wholly dependent upon perception, but not perception upon memory.

3. *Also to reason.* — In the scale of the human faculties, memory ranks below the reason, also. It cannot be said, indeed, that reason is wholly independent of memory in its operations, although the logical relations of things, as we have seen, are traced by the reason alone. The assistance rendered by the memory here, is in bringing these relations to the view of the reason and holding them before it till their mutual dependence is perceived and felt. All comparison and judging of relations between ideas necessarily involve memory. But reason is the distinguishing endowment of man, and must, therefore, be higher than either perception or

* Hamilton makes memory a condition of perception. But if so, how could there ever be a first perception, since there can be no memory antecedent to experience? Doubtless memory greatly assists perception, in our mature experience, but perception cannot be wholly dependent upon its co-operation.

memory, which are possessed by the lower orders of animals. Its movements are more independent, being determined by its own spontaneous energy, rather than from without.

4. *Experience shows this.*—The attempt so often made, by a certain order of minds, to make memory do the work of reason, shows its vast inferiority to that godlike power. Memory attempts to retain knowledge as a succession of facts barely associated together by contingent relations, while reason arranges them according to their relations of mutual dependence, and thus connects them by a line of thought, which can be traced at any time. And although a vast amount of knowledge may be retained by the memory, when thus taxed with a double duty, yet it is comparatively uninstructional, and rests like an incubus upon the mind, preventing all free and fruitful action.

5. *But memory is not an unimportant power, as appears from its connection with the imagination.*—But memory, in its proper office, is far from being a useless or unimportant faculty. As a reproductive power, it seems to be generically the same as imagination. The only difference between the two powers is, that memory recalls perceived objects as wholes, precisely as they occurred to sense; while imagination reproduces them disconnected from their surroundings, or in fragments, or variously mixed and compounded, so that they are no longer simple representations of what has been perceived, though always made up of the elements of what has been perceived. Memory, then, is of the same general nature as imagination, but is evidently an inferior energy. It is wholly confined to things *as perceived*, while imagination creates new forms

from perceived elements. Hence, though a good memory may exist without a fine imagination, a fine imagination must always be accompanied by a good memory. When the representative faculty rises high enough to constitute a lofty imagination, it must necessarily embrace the lower energy of memory; though it may rise high enough to constitute a good memory, without reaching the elevation necessary to a fine imagination. And this we find to be the case in fact. A man with a vivid imagination always has a good memory, though we often see persons with a good memory who have but an indifferent imagination. Memory, therefore, though often existing without genius, and far from being a uniform sign of genius, necessarily accompanies it, as far as genius consists in extraordinary powers of imagination.

6. *Its importance is best seen in practical life.*—But it is in practical life that the importance of memory appears the most conspicuously. The details of every-day life must mainly be committed to the memory. They cannot, to any great extent, be arranged in the order of mutual dependence, and thus be recalled by logical thought; they can generally be reached only through association and habit. This is especially the case in the heterogeneous and multifarious duties of private and business life. And even the professional man and the scholar must rely largely on the memory in the prosecution of their duties. After all that can be done in arranging their knowledge in its logical order, there must necessarily remain a vast amount of detached and loose material, hovering within the sphere of their action, and essential to their success, which can be connected only by association, and recalled only by memory.

7. *Memory is all-important in its place.*—Memory, therefore, though not relatively one of the very highest endowments of the mind, is yet, in its place, a highly useful power, and deserving, like all the other faculties, of the most assiduous cultivation. What has disparaged memory most, is the attempt, so often made, to substitute it for reason, and make it do its work. Such an attempt is always unsuccessful, and exposes memory to reproach. Besides, as it is entirely unnatural and out of place, such an attempt seems to imply a *want of reason* in the one who makes it, and hence begets a contempt for an order of mind in which memory is largely developed. Memory, like the other faculties, is most honored and improved when confined to its proper sphere, and within that, tasked to the utmost on all occasions requiring its use.

CHAPTER V.

IMAGINATION.

SECTION I.

NATURE OF IMAGINATION.

1. *Imagination distinguished from other powers.*—“*Imagination** or *Phantasy*,” says Sir W. Hamilton, “in its most extensive meaning, is the faculty *representative* of the phenomena both of the external and internal world.” Imagination is thus distinguished generically from perception and self-consciousness, which are faculties *presentative* or *intuitive*,—the one of the phenomena of the external, and the other of those of the internal world. On the contrary, imagination and memory are distinguished from each other only specifically. They are generically alike, in both being representative faculties,—specifically different, inasmuch as memory represents an object with its surroundings as it actually came into the mind; while imagination represents an object out of its original connections, or in some way distorted, or combined with other images.

2. *Imagination and memory.*—In consequence of

* “The Latin *imaginatio*, with its modifications in the vulgar languages, was employed both in ancient and modern times to express what the Greeks denominated Φαντασία. Phantasy, of which Phancy, or Fancy, is a corruption, and now employed in a more limited sense, was a common name for Imagination with the old English Writers.”—Hamilton.

this difference between memory and imagination, the representative thought in the former is taken as the undoubted counterpart of what *actually has been*, while in the latter it is taken only as a representation of what *possibly may be*. Hence, the one involves an absolute belief in the (former) existence of the object *as represented*, while the other does not. The images, in imagination, are recognized as mere images. When I remember any object, as a house, a tree, a tune, I think of it with its surroundings, just as it came into the mind; but when I simply imagine such an object, I disconnect it from its surroundings, and give it any position, or conjoin it with any other object, as I choose. Thus, I can imagine a tree inverted in the air, an anthem chanted by angels, or a human face attached to the neck of a horse.

3. *Imagination only combines perceived elements.*— Imagination, however, is limited for its materials to what has been actually perceived, either by external or internal perception. It creates no new elements of its own. It can combine the elements received through perception in innumerable forms and proportions—can variously attenuate, spiritualize, idealize them,—but can never wholly transcend them. Centaurs and Sphinxes, as well as the infinite succession of images presented by poets and other imaginative writers, are all composed of materials furnished by perception and self-consciousness,—only variously arranged, compounded, diminished, distorted, sublimated, or idealized. The giant of the imagination is only a man enlarged, and the Venus of Praxiteles, or the Fairy Queen of Spenser, only the ideal of all that is fair in woman.

4. *The images of the imagination are concrete.*—Hence, too, the images of the imagination must always be concrete in form. Things are perceived only in their concrete form, and the representations of the imagination being wholly composed of the elements of perceived objects,—not of an abstract of their qualities,—must also be concrete. The most extravagant and grotesque images of the Oriental imagination, embodied in their monsters or gods, are but the exaggerated forms of various heterogeneous parts, limbs, organs, etc., combined into certain fantastic wholes. The thinking of abstract or generalized ideas is conception,* not imagination.

5. *Images are either drawn from the inspection of objects, or are suggested.*—Sometimes we form these images from a direct inspection or recollection of the different objects from which they are compounded. Thus the sculptor forms his ideal image of the perfect human form which he wishes to represent, from a combination of the most perfect limbs, organs, lines, and features, which he has observed in different persons. So the painter forms his fancy landscape by combining in his picture the most attractive features in the different scenes which he has witnessed. But in other cases,

* This is in accordance with the better usage of philosophers; though Mr. Stewart makes conception merely that form of imagination which consists in reproducing, without change, what has been previously perceived. Conception, as the act of thinking, realizing, or construing something to the mind, is of the same general character as imagination, and hence is often used in referring to the thought of individual, concrete things, especially of such as really present no adequate image, as sounds, flavors, and odors; or where the image is reached through a process of comparison and combination, as in case of the ideal embodied in a work of art, or the hypothesis by which the different parts of the solar system, or other related phenomena, are connected in the mind.

images come to us ready formed, being *suggested* by something present to the mind. The unreal images of the imagination, like the real images of memory, and the thoughts and feelings of our rational and emotional nature, are suggested, or recur, according to fixed laws and relations, such as those already described in the chapter on memory.

6. *The images contained in figures of speech are suggested.* — It is in this latter way that the images contained in figures of speech are awakened. In thinking or writing upon any subject we fall upon ideas which, by resemblance, contrast, or the relations of cause and effect, part and whole, etc., suggest other ideas or images, which are either directly introduced as *illustrations* of the thought under consideration, or, by the use of some term which is applicable to the related rather than to the main thought, are *suggested* to the mind of the reader or hearer. Thus, in speaking of the period of youth, I may be reminded, by resemblance, of the spring, and say directly, in the form of an illustrative comparison, "youth, like the spring, is fresh and blooming," or, on the same principle of resemblance, I may be reminded by it of the opening of day, and say of it, by a metaphor, "youth is the *morning* of life." And thus of the other figures of speech, used more or less by all writers, but especially by those of the imaginative sort, and treated of in books on Rhetoric.

7. *These images come either voluntarily or involuntarily.* — And here, too, as in reminiscence, the suggested images either come unbidden, or only after a predetermined search. They always come involuntarily in sleep, and for the most part, also, in our waking hours. But not unfrequently, in thinking or writing upon any

subject, having brought the discussion to a certain point, or having reached a certain idea which seems specially to require illustration or adornment, we halt, and cast about for some image fitted to illuminate or beautify it. This must be done to some extent by all writers, and especially by those of no more than ordinary liveliness of imagination, in any elaborate or finished style. Thus Demosthenes, wishing to animate the Athenians in their contest against Philip, and inspire them with confidence in the favor of the gods towards the city, notwithstanding some recent reverses, closes a series of observations on the subject by the following apt and striking illustration, which condenses the whole spirit and force of what he had previously said into a single burning point: "I think it is with the favors of the gods as with the gifts of fortune; if we retain and improve them, we retain also our gratitude for them; but if we misimprove and lose them, we at the same time lose our gratitude—our state of mind in each case being very much determined by the last event."

8. *Fancy as distinguished from imagination.*—The lighter, more airy, more capricious movements of the imagination are called *fancy*. An image is said to be fanciful, when it is not suggested by an obvious, natural, substantial similarity, which is approved on reflection as sound and important, but by some casual, factitious, unobvious, slight, shadowy, or recondite similarity, which occurs only to minds of a peculiar cast, or to the ordinary mind, only in its gayer, more sportive and fantastic moods. The fancy forms such characters as Ariel and Queen Mab, the imagination such as Caliban, the Satan of Milton, or the Mephistopheles of

Goethe. The *Paradise Lost* is more the work of the imagination, the *L'Allegro* and *Il'Pensero*, of the fancy; the plays of Skakspeare and the discourses of Jeremy Taylor are woven of materials supplied about equally by each.

9. *Fancy, conceits, wit, etc.* — Fancies are the playful, subtile, evanescent, witching, and often, affected and extravagant, images of the imagination. At the same time; Conceits are only affected fancies, and Wit, which aims at producing pleasurable surprise, by placing words or images in unexpected or unusual relations to each other, works chiefly by this faculty. So, the Ludicrous and the Grotesque, which depend upon odd or fantastic conjunctions among ideas, are but the wanton freaks of fancy.

SECTION II.

USES OF THE IMAGINATION.

1. *Imagination one of the chief constituents of genius.* — In order to the possession of any thing which deserves the name of intelligence, knowledge must, at least, be obtained, preserved, and arranged. Sense, memory, and understanding, therefore, are absolutely indispensable to any proper intelligence. Imagination, however (as distinguished from memory), does not seem to be thus absolutely essential to intelligence; and hence, more minds, perhaps, are deficient in this power, than in any other. This, however, does not prove imagination to be an inferior gift, but rather the reverse. We might live and know without it; but our life becomes nobler, and our knowledge grander with it. The intelligence which

has simply the least number of powers necessary for knowing, is the lowest form of intelligence, and every additional power, as being a rarer, is also a higher, gift. Thus it is with the imagination,—it is among the higher and diviner gifts of the mind. It is one of the chief constituents of genius.

2. *Is of great service in conversation.*—But to proceed to particulars; the imagination is of great service in *conversation*. As one could not converse at all without memory, so he cannot converse well, i.e., with any elegance or force, without imagination. Any topic of conversation is comparatively barren of interest, and soon exhausted, if considered simply by itself, or only in its commonest relations. But when amplified, by following it out in its logical connections, by clustering about it associated thoughts, and illustrating and adorning it by appropriate comparisons, figures, and images, drawn from the wide range of analogies throughout nature, the dryest subject becomes attractive. As conversation is best when somewhat discursive, proceeding from one related thought to another in an easy and graceful manner, and drawing in materials from a wide range of objects, no faculty is more serviceable to the converser than the imagination or fancy. Its light and airy movements buoy up the mind and bear it along with nimbleness through pleasing and diversified fields of thought.

3. *Is of great service to the orator.*—Imagination is of great service to the *orator*; not so much, however, in giving a light discursiveness to his thoughts, as in giving them vividness and life. The Orator must think thoroughly and systematically, but the line of his thoughts must be illuminated and vivified through its

whole extent by the imagination. The source of this life and power, doubtless, is passion, but passion arouses the imagination and opens its storehouse of images. The figures of the orator are chiefly what rhetoricians call *figures of passion*, i.e., figures of the imagination called forth by passion. They are of the vivid, the strong, and the illustrative sort, rather than of the calm and beautiful.

4. *Illustrated from Demosthenes.*—The object of the orator is, to carry his hearers with him,—to make them converts to his ideas and purposes. Hence, he must secure their attention, must make his ideas palpable and vivid and convince them that he is thoroughly in earnest. Beyond the simple power of logical thought, his most important auxiliary for doing this is the imagination. Thus, to quote again from that most cogent and earnest of orators, and master of the illustrative comparison; Demosthenes, having exhausted all his power of direct appeal and argument in attempting to arouse the Athenians from their tardy and fitful policy in opposing Philip, closes an indignant strain of remark upon that point by the famous comparison of the unskilful boxer: “O Athenians! your contest with Philip is like that of unpractised boxers against their antagonists; who, struck in one place, cover it with their hand,—struck in another, place their hand there; and thus, always occupied with the blows they receive, know not how to strike and defend themselves.”

5. *The imagination is a great aid to the poet.*—The imagination is a great aid to the poet. It is by this power, more than by all others, that the genuine poem is made. A true poem is but a tissue of various and softly blending images drawn from “all that

is fair and bright" through the imagination. Reflecting some of the loftier, more affecting and interesting themes, the poet, as he advances in his imaginative development, follows the long lines of analogies, moral and spiritual, connected with each successive thought, and instinctively appropriating such thoughts as are best calculated to beautify and ennable his theme, sets them as gems in the general ground of his subject. Those striking and pleasing ornaments, which sparkle thus on the pages of Homer, of Shakspeare, of Milton, and other great poets, are all the work of the imagination.

6. *Also to other classes of writers.* — And thus, to some extent, of *all writers*. There are few species of writing which are not improved by an occasional figure of the imagination. The philosophical style, perhaps, should wholly eschew tropes, but there is no kind of style which does not admit of, and which may not be greatly improved by, the illustrative comparison. In the treatment of almost any subject, there are points in the progress of the thought where an illustrative comparison, founded upon some striking analogy, may be made to illuminate the whole matter. These a good writer always feels the need of at such points, and if they do not occur to him at once, searches for them in his imagination.

7. *Is indispensable to the artist.* — Imagination is indispensable to the *artist*. Painters and sculptors, even more than poets, have to do with images. Where they copy direct from nature, they must first form in the mind a connected image of the object or scene. But in the higher efforts of art, the object or scene is always more or less ideal; i.e., it is a model formed in the im-

agination, composed, indeed, of elements which have been perceived, but so selected, arranged, and retouched by the fancy, as to be more perfect than ever actually occurs in any one object or scene in nature. Without this there can be no high art. An imagination capable of forming appropriate ideals is an indispensable requisite for an artist.

8. *Is a great assistance to the student of nature.*—The imagination, also, is a great assistance to the *student of nature*. All objects, and systems of objects, in nature, have a certain conformity and relation of parts, and all agents, a certain definite mode of operation, which we must be able to form a correct image of, before we can understand either the objects or their relations, or the operation of agents. The manner in which we image out to ourselves these objects, their relations, and modes of action, constitutes our theory, hypothesis, or conception,* in the case. When our conception is proved to be in accordance with all the facts in the case, it is no longer hypothesis, but knowledge. Thus, the Ptolemaic conception of the solar system was gradually changed and purified, till in the mind of Newton it was brought into conformity with nature, and is now familiarly illustrated by a concrete sensible illustration, in the orrery. In reaching such a result, the imagination performs an important part. The physical philosopher succeeds in interpreting nature, just in proportion to his capacity of forming correct conceptions of the relations and modes of action between objects and agents, from hints, analogies, etc.

* Called conception, because reached through a process of comparison and combination, though there is really nothing but a concrete image formed in the case. See Sec. 1. note 2d.

9. *Also to the student of geometry, geography, and history.*—In a similar way, the imagination greatly assists the *student of geometry, of geography, and of history*. Geometric figures, whether applying to the heavenly bodies, to the earth, or to empty space, consist of a certain combination of lines, surfaces, and angles, constituting a definite outline or form, which must be distinctly imaged as a whole in the mind before they can be constructed, or understood in their application, or even well retained, supposing them already constructed to our hand. Consequently, the success of the student of geometry must depend largely upon the facility with which his imagination pictures the outline and relation of parts in a figure. So in geography and history, one's ideas must always be extremely vague and inadequate, and his progress but small, unless he readily catches the image of coasts, rivers, mountains, cities, costumes, fortifications, plans of campaigns, lines of march, orders of battle, and the general figure and relations of men and things on the earth, from such hints and descriptions as can be conveyed by language.

10. *Is of little or no service to the abstract thinker.*—The mere *thinker* or *speculator* in abstract truth, and things wholly immaterial, is less assisted by the imagination than any other class of men. The logical relations of ideas are developed wholly by reason, without any aid from the imagination. Nay, the imagination, by obtruding its impertinent images, is often a great hinderance to success in such speculations. But though of little service to the abstract thinker and reasoner, the imagination, as is implied in what has already been said, is of the greatest importance to the inductive discoverer, as well as to the analogical and

general reasoner. In such kinds of reasoning there is a demand for something besides logical inference. There is room for the play of the imagination, and it plays with the best effect in suggesting media of proof and means of illustration. The discursive power of the mind lies wholly in the imagination (including the memory) and the reason; and all invention, discovery, and advancement of the boundaries of thought, as well as the enriching and beautifying of our ideas, depend upon these powers.

SECTION III.

TRAINING OF THE IMAGINATION.

1. The imagination needs chastening as well as strengthening.—The great influence of the imagination, both for good and for evil, on our intellectual habits and pursuits, makes its proper training an object of the utmost importance. On the one hand, it needs strengthening and developing, on the other, curbing and chastening. If it be well to have a ready and vigorous imagination, it must still be subject to reason and taste. And while it is strengthened, like the other faculties, by use, it is chastened by being used only in subordination to the dictates of reason and taste. Now, there are three ways in which the imagination may be used, and thus strengthened and improved, when used aright. It may be employed in forming and contemplating the images presented by the objects of nature, or those suggested by the writings or works of men, or in combining and embodying these in works of our

own. Each is a useful exercise of the faculty, though differing somewhat in their effects.

2. *It may derive images direct from nature.* — Whatever we perceive, and, more especially, whatever we perceive by the eye, by the ear, or by the touch, leaves its image in the mind, or rather is capable of being imaged by the mind afterwards. Wherever we go, therefore, among the works of God, we are filling the imagination with images. The hills, the vales, the mountains, the forests, the rivers, the ocean, the sky, abound in objects whose images may be used in illustrating and adorning our ideas, or be embodied in works of art for the instruction and admiration of others.

3. *But these are valuable only when the result of careful observation.* — But it is not sufficient simply to ramble among the works of nature. One may do this and get but little that is valuable. Only those images are of much value which are true to nature, and hence characteristic. The variety of nature is endless and inexhaustible, so that it has been said, that no two leaves, even from the same tree or shrub, are exact facsimiles of each other in the lines which variegate the surface. Hence, a writer whose imagination is filled with images which are exact copies of natural objects, will never fail in variety and freshness. But to obtain these, nature must be closely scrutinized, and every object be perceived exactly as it is. This, of course, can be done only by the most careful and accurate observation. Hence, again, we see the vast importance of having an ever-wakeful attention, wherever we are, and however engaged. He who is much abroad among the works of nature, and observes objects with a careful and wakeful attention, is filling his mind with an

inexhaustible store of the most pleasing and useful images.

4. *The imagination may be improved, also, by the study of books and art.*—The imagination is improved, also, by reading books, and contemplating works of art. The writings of men,—especially those of the imaginative sort, as fiction and poetry,—and the various creations of art, embody the best conceptions or combinations of images of which the human imagination is capable, and hence are most useful studies for the improvement of this faculty. These, however, and particularly as presented in books, are to the reader but suggested images. They are, at best, but images at second-hand,—images of images,—and hence, necessarily more or less imperfect, inadequate, and indistinct. This they would be, supposing them to have been original and exact in the mind of the writer who employs them; but a large part of them have come down, as commonplaces, through a long series of writers, one borrowing them from the other, till they have lost all freshness and point. They are no longer the distinct, characteristic images of nature, but only their dim and wasted ghosts. No book, therefore, nor work of art even, can be compared with nature as a study for improving the imagination, and too many of these productions tend rather to pervert than to improve the power.

5. *And most of all in combining images for works of our own.*—Again, we improve our imagination by embodying its images in works of our own, or, more properly, by employing it in forming images for the purpose of embodying them in some production of our own. In the previous cases, the imagination is com-

paratively passive, but here it is decidedly active. The artist who is at work in forming and embodying his ideal, and the poet, or other writer, who sends forth his imagination, at every step, in quest of some appropriate image to illustrate or adorn his ideas, is exercising his imagination in the most effectual way. The other methods furnish the imagination with the materials for its images, this practises it in producing and combining them, as the case requires. And, as is the case in the exercise of the other faculties, every creative effort of the imagination strengthens it for another effort of the same kind, till at length we acquire a facility in calling images to our aid, as we need them, which astonishes ourselves.

6. *But the imagination should be subject to a sound taste.* — But the imagination does not need strengthening alone, it needs chastening. It will be to little purpose that we are able to call up images, if they are not appropriate. Improper images employed by a writer are worse than no images at all. A strong imagination, without a just *taste*, is a dangerous power. Hence, the imagination should never be cultivated to the neglect of the taste, but only in connection with and in subordination to it. It is the special province of taste to control the imagination in the use of imagery. Without this the imagination becomes grotesque and fantastic.

7. *Also to an enlightened reason.* — Nor should the imagination be allowed to override, or in any way to interfere with, *reason*. Bishop Butler, who was a sturdy thinker, calls the imagination a “forward, delusive faculty, ever obtruding beyond its sphere.” And this, undoubtedly, is its tendency. If the reason be not

cultivated and made to assert its authority, the imagination usurps its place, and substitutes its wild and empty images for truth. It does this with the savage, and with all, just in proportion as the cultivation of their rational powers is neglected, so that they are incapable of distinguishing truth from fancy.

8. *Otherwise it interferes with thinking.*— As already remarked, any great vigor of imagination is probably of no advantage to the mere deductive reasoner or investigator of abstract truth. It would, of course, be an aid to him in setting forth the results of his investigations in a popular way to others, but as a mere investigator of truth in its logical and abstract relations, it is rather a hinderance than a help to him. To such a one, it is truly a “delusive faculty.” It not only thrusts forward its vain images for truth, but by its wild and capricious habits of association, often diverts the attention, and draws off the mind from the direct line of thought.

9. *And becomes wild and fantastic.*— While, therefore, it is necessary to strengthen and cultivate the imagination, it is necessary at the same time to cultivate the other powers, and especially the taste and the reason, to which it owes subordination. If these be not cultivated in conjunction with it, the imagination being unrestrained, runs riot, and does violence to all propriety and truth.

CHAPTER VI.

CONCEPTION.

SECTION I.

NATURE OF CONCEPTION.

1. *Definition of conception.* — Conception means *taking together*, in allusion to the common marks or attributes of different objects, which are taken together or thought as one nature, in the act. Conception denotes both the power of thus grasping the common nature of different related objects, the act of doing it, and the result or product of the act; though the latter is sometimes, and more properly, called a *concept*. Conception, therefore, corresponds to the Simple Apprehension of the Logicians; and the concept, as embracing certain attributes and hence characterized by certain marks, means the same as Notion, or General Notion, which is kindred to the Latin *notæ* (marks).

2. *Nature of the cognition in conception.* — Conceiving, then, is cognizing objects, not by their individual features and peculiarities, as is done in perception, but by certain common features, to the neglect of individual peculiarities. It is thus rather thinking of objects, than perceiving them. The concept, being indifferently applicable to any one of a class of related objects, represents no particular object existing in time and space, but only some possible object. But its marks or attributes must not be contradictory of each other, so that

we cannot think them together, and hence cannot suppose them capable of co-existing in any object whatever. Standing thus as the representative of no one particular object, the concept is capable of being *fixed*, so as to be reproducible in thought, only in some representative sign, as a *word*, or other symbol. Concepts, then, have no specific embodiment except in general terms, or common names. In the operations of thought, they are regularly suggested or recalled by these, and indifferently applied, as the case may require, to any individual of the class designated by the term.

3. *A concept cannot be represented in a concrete image.* — But although the concept is thus fixed, or individualized, in a common term, and is capable of being applied in thought to any one of the class of objects whose common attributes it includes, still, as not embracing the special nature and peculiarities of any particular sensible object,—i.e., as not being a simple *intuition* of some one object,—it is incapable of being itself presented in a *concrete image*. As, however, the concept embraces only compatible attributes, it is always capable of individualization in a possible object of intuition, and is often so individualized in its application to the different objects of the class which it represents. In such application, when consciously and formally made, the imagination presents the individual to which it is made; as where the general concept of *man* is applied to this or that particular man. This, however, is imagination, not conception.

4. *How we may have a concept of a general triangle.* — Hence we see how we may have such a concept as that of a general triangle, which is neither equilateral, isosceles, nor scalene, and yet is virtually each and all

of these. It is obvious, at once, that there can be no such general notion of triangle as shall, *at the same time*, embrace all the possible varieties of triangle. A triangle which shall be at once oblique and rectangle, equilateral and scalene, is clearly inconceivable, since it is required that it have contradictory attributes, which cannot be thought together. It was on this ground that such a general notion was rejected by Hobbes, Berkeley, Hume, etc. But no such concept is contended for by any intelligent advocate of general notions. Indeed, such a concept, were it possible, would not be a general notion, as it would embrace the special features of triangles of all forms. All that is required is, that there should be such a general notion of a triangle as is capable of being applied in thought to every form of the triangle *at different time*, as occasion requires us to reason about this or that sort of triangle. Such a concept of a triangle is simply that of a figure having three sides and three angles, without any regard to the special character of those sides and angles.

5. *It is not generally necessary to individualize our concepts in using them.* — But in using our concepts in thought, it is not generally necessary to individualize them. In the majority of cases we make no attempt to realize the concept either in an actual or possible object of intuition. We, in fact, substitute general terms for general notions, and use them in our judgments and reasoning, very much as we do algebraic symbols. Thus, though I cannot individualize my general concept of triangle, except as equilateral, isosceles, or scalene, I can judge and reason about a triangle, without making any attempt to conceive it in its specific character. But the individualization of a concept, at least

in a possible object of intuition, is the true test of its logical correctness. If its attributes cannot be thought together, the concept must be rejected as illegitimate.

6. *Logical and real concepts.* — Logically, then, any concept not embracing contradictory attributes is legitimate. Such a concept is a legitimate form of thought, whether true to nature or not. As there is nothing contradictory in the combination of attributes, we can as easily, and hence, in a logical sense, as legitimately, conceive the particles of matter repellent of each other as attracting each other. But metaphysically, or really, conceptions are true or false, according as they correspond or not with the facts of nature. Thus, a person never having seen water congealed, might conceive it as necessarily fluid, which, not embracing all the essential facts in the case, is a false conception. Hence the truth of our conceptions depends upon the extent and accuracy of our knowledge of objects.

7. *What is conceivable is possible, but not necessarily the reverse.* — Whatever is conceivable we regard as possible. As it is construable to thought, as there is no difficulty in our thinking it, we can see nothing insuperable in the way of its being realized. What we can think, we are constrained to believe that Almighty Power might render actual. And even what we cannot think, we do not necessarily consider as beyond the reach of Almighty Power to realize ; so that *inconceivability* is not regarded by us as equivalent to *impossibility*.

8. *Limit to the application of the term conception.* — Conception being the contemplation of the internal character of a class of related objects, and thus, in a general sense, the construing to thought, or the viewing

in connection with each other and as consistent with each other, of various attributes and relations, we may be said to conceive a judgment, a process of reasoning, a system composed of various co-ordinated or subordinated parts, a machine, or other structure embodying abstract ideas and relations. But conception should not be used in so wide a sense, as is often done by Dr. Reid, as to include *understanding, comprehending, supposing, assuming*, etc. We may *understand* the statement that *the whole is greater than its parts*, but we cannot *conceive* the relation assumed in the judgment. We may *suppose* or *assume* that *two straight lines enclose space*, but we cannot *conceive* the relation implied in the sentence.

SECTION II.

FORMATION OF CONCEPTS.

1. *We first distinguish individual things.* — In our first perceptions, especially by sight, different objects are regarded only as variations in, or different parts of, one whole. By degrees, these variations are distinguished as different objects, and more or less of their qualities perceived, varying with the sense employed in their perception. And in time, by the use of our different senses and powers, we acquire a knowledge of all the properties of an object which we are capable of acquiring. The knowledge thus acquired of an individual object, whether at once or by repeated efforts, is called an intuition.

2. *We then combine them in classes.* — In the mean time, we have perceived a large number of objects,

which, from a natural tendency of the human mind to disregard differences, are distributed into classes according to their substantial resemblances, the individuals of each class being recognized as virtually the same and being designated by the same name. Thus objects are rudely classified almost unconsciously. But reflection follows the unconscious process, and confirms or corrects its results, as the case may require. We thus come, at length, even in ordinary perception, almost wholly to disregard the individual features of classified objects, and in conceiving or thinking of the class by its type, to fix exclusively on certain attributes common to all the individuals, while all others are neglected as non-essential.

3. *And then combine classes into one.*—Our concepts, in the course of observation and reflection, are continually becoming more and more accurate, and more and more extended, exhibiting a constant tendency to higher and higher generalizations. The primary concepts which we form from limited observation are gradually enlarged with our growing experience, by admitting to the class other and still other kindred classes of objects, till the general class embraces various subordinate classes, each having its separate type, but all coinciding in certain interior common attributes. Thus the notion which we form from observation of the *rose*, *lily*, *violet*, etc., are afterwards united in the more general concept of *flower*; while the notion of *flower*, *tree*, *fern*, etc., are embraced again under the still wider concept of *plant*. And thus our concepts embrace wider and still wider circles of objects, tending ever towards the absorption of all things into one grand unity, the *summum genus*, Substance or Being.

4. *Breadth and depth of concepts.*—In this gradation of concepts, it is obvious that the higher or wider the concept, the greater the number of objects and the less the number of attributes which it embraces; as the concept of *plant*, while it embraces more objects than that of *tree*, embraces them only by assuming fewer attributes to express the common nature of the class. In the language of logic, higher concepts have greater *breadth*, or a wider *extension* or *sphere*, while lower concepts have greater *depth*, or more *intention*, *comprehension*, or *matter* (qualities).

5. *Hence conception grows out of perception.*—It thus appears that conception grows out of perception. The percept lies at the root of the concept. Concepts are secondary notions generalized from perceptions. This is accomplished through comparison, as far as it is a conscious process. The common attributes of different objects are discovered by placing them side by side in our mental view, and considering them in comparison with each other. But the withdrawing of the attention from all except the common attributes of the different objects, by which the generalization is effected, is called *abstraction*. However, even this is possible only through comparison.

SECTION III.

KINDS OF CONCEPTS.

It will tend further to elucidate the nature of conception, to enumerate and describe some of the principal classes of concepts or notions. Our concepts are either *distinct* or *confused*, *adequate* or *inadequate*, *sym-*

bolical or notative, primary or secondary, positive or negative, irrespective or relative, abstract or concrete, necessary or contingent. Each of these classes of concepts may receive a few words of explanation.

1. *Distinct and Confused Concepts or Notions.* — A notion is said to be distinct, when we can distinguish its marks or attributes and enumerate them. Thus, the notion of a *bridge* is a distinct notion, for we can readily discern and declare its attributes, as is done in the definition, “a bridge is a structure over any collection of water, resting on supports, and designed for the passage of men or beasts.” Not that such notions are necessarily distinct in all minds, but they are capable of becoming so. A confused notion, on the contrary, is one whose attributes cannot be distinguished, such as our notions of *space, time, red, love*, or of any other simple intuition or feeling. Such notions are clear enough, but being without distinguishing marks, they are said to be confused or indistinct. They are often called simple notions. .

2. *Adequate and Inadequate Notions.* — Notions are said to be adequate, when not only their attributes, but the attributes of these attributes, can be distinguished and enumerated,— and the attributes of these again, as far as our purpose requires. Thus, if perception be defined, “a mental energy by which we acquire a knowledge of an external world,” we enumerate its attributes; and the notion becomes *adequate*, when we explain, in turn, what is meant by “a mental energy,” by “acquiring a knowledge,” and by “an external world.” When such explanation cannot be given, the notion is *inadequate*.

3. *Symbolical and Notative Concepts.* — Symbolical

concepts are notions so complex, and embracing so many attributes, that the full extent of their meaning is not usually realized in employing the terms by which they are designated, the words being really used as substitutes or symbols in place of the ideas. Such words as *state*, *virtue*, *universe*, etc., are of this sort. These and many other general terms are constantly used without either speaker or hearer realizing any thing like the full conception which they designate. Indeed, all familiar concepts are practically, in a great measure, symbolical. After we have once formed a concept, we think but little of its elements, but take the general term by which it is designated as a substitute for the thought. But where the attributes of a concept are quite simple and obtrusive, so that they are readily realized, as in the concepts of *book*, *box*, *tree*, etc., it is said to be notative.

4. *First and Second Notions.*—First notions, as the term implies, are the simple, unmodified concepts which we form of things, or classes of things, as they stand in nature; such concepts as have thus far been described in this chapter. But when these primary concepts come to be thought of out of relation to the objects which they represent, and only in relation to each other, i.e., when they come to be handled purely as materials of thought, they are viewed by the mind under a new aspect. Under this new form they become second notions. Thus, the first notions of *Thomas*, *man*, *animal*, etc., can be thought of in relation to each other only as *individual*, *species*, *genus*, etc. Hence first notions are such as those of *tree*, *plant*, *stone*, *horse*, etc., while second notions are such as those of *individual*, *genus*, *species*, *premise*, *conclusion*, *syllogism*, and

other concepts of concepts, or "names of names," as Hobbes calls them. As second notions are the forms which first notions assume when they are thought of in relation to each other, Logic is said to have to do wholly with second notions.

5. *Positive and Negative (or Privative) Notions.*—A positive notion is any notion which possesses positive attributes or marks. Such are all the classes of notions thus far spoken of, and indeed, all notions except negative notions. Negative notions, then, are characterized by a want of attributes or marks. They are but the implied counterpart or reflection of positive notions. Every positive notion suggests a counter negative notion, and these together make up an entire sphere; as *kindness* and *unkindness*, *good* and *not-good*, *animal* and *not-animal*, *material* and *immaterial*. All such negative notions are merely conceived as destitute of the attributes of the positive notions to which they correspond. Such notions, however, are not without their value. They supply a negative for every positive, and give us a glimpse of what is unknowable even, by shadowing it forth as the counterpart of what is known. Of this nature are all our conceptions of the infinite and absolute.

6. *Irrespective and Relative Notions.*—Irrespective notions are such as do not imply or suggest any other notion, as, for instance, the notions of *horse*, *tree*, *flower*, and indeed, the great body of our notions. Relative notions, on the contrary, are those which usually or always occur to our minds in pairs, the one seeming necessarily to imply the other. Such are the notions expressed by the words *debtor* and *creditor*, *parent* and

child, male and female, young and old, true and false, etc. Positive and negative concepts are also relative notions.

7. *Abstract and Concrete Notions.*— All concepts are abstractions, but certain concepts are technically known as abstract, in comparison with others which are called concrete. Abstract notions are qualities viewed under a substantive form, or apart from the subjects to which they belong. These qualities may either be of a general nature, such as belong to various classes of things, as *whiteness, roughness, justice*, etc.; or such as belong to only a single class of objects, as, *manliness, royalty*, etc. But when these qualities are viewed merely as attributes of their several subjects, our notion of them is said to be concrete, as when we speak of the *white* snow, the *just* man, the *manly* boy, the *royal* guest, etc.

8. *Necessary and Contingent notions.*— What are commonly called necessary notions are more properly, perhaps, either necessary intuitions, or necessary judgments. Our ideas of space, time, causality, etc., can be considered *concepts*, only as they extend the qualities presented to us in their respective intuitions to all possible time, space, etc., and hence, in a certain sense, are generalizations. On the contrary, the various logical and mathematical axioms are rather judgments than concepts. Strictly, therefore, all concepts are contingent, except such as are necessary in that very limited sense implied in the fact, that our perceptions having been such and such in regard to any class of objects, our conceptions are necessarily in accordance with our experience.

SECTION IV.

THEORIES OF CONCEPTION.

The controversy about general notions is one famous in the history of philosophy, and has been marked by three distinct theories on the subject; denominated, respectively, *realism*, *nominalism*, *conceptualism*.

I. REALISM.

1. *What this theory holds to.*—According to this theory, concepts have a *real* objective existence, independent of the mind conceiving them, and even of the objects in which alone they appear to us. They are neither mere modifications of the mind, nor combinations of qualities in objects, apprehended by the mind and abstracted from them. They are to be regarded, rather, as proper representative objects, meditating between the mind and the phenomenal world. They are thus only a peculiar form of the *representative ideas*, which figure so largely in the history of philosophy.

2. *The Platonic view.*—According to Plato, the phenomenal world (i.e., all external objects) addresses itself only to the *sensitive soul* (as he calls it), and gives rise merely to sensations, not perceptions. All that is really perceived is *ideas*, and hence objects are perceived only as they *participate* in these ideas. These ideas he regards as existing *actually* in the mind of God and as having determined him in creation,—they being the types or models after which all things were made ; but only *potentially* in the mind of man, as he is only conscious of them as elicited by experience ; i.e., by the recurrence to sense of various phenomenal objects which are the embodiments of these ideas. Thus

the ideal world was the only real world; all the rest was only changing, fleeting, phenomenal. These views of Plato were adopted by his followers among the Schoolmen of the Middle Ages, and employed by them, especially, as a theory of conception, or an account of general notions,—though conception and perception are all the same, on this theory.

3. *Criticism of the theory.*—This theory of conception (like the corresponding theory of perception) errs, in assuming the existence of actual, representative entities in thought, which are not mere modifications of the thinking mind itself,—i.e., real mental apprehensions reached through experience. It substitutes representative ideas for thoughts proper. Conceptions, thoughts, are indeed real, both in the mind of God and in the mind of man, though not distinct, real entities,—certainly not in the mind of man. God has stamped certain types upon things, and man reads them there.

II. NOMINALISM.

1. *What the theory is.*—This theory does not deny that we apprehend certain common qualities in different objects, and classify them accordingly. It only contends that these common qualities are none the more general, for being perceived in several objects,—that they always stand in the mind, as perceived in some particular object of the class, but accompanied by the consciousness that they belong equally to every individual of the class. All the generality, therefore, which there is in such notions, consists in the idea of *relation* to various individual objects, which is involved in them.

2. *Further developed and illustrated.* — The nominalist, therefore, holds, that strictly, there are only general terms, notions being always singular. In other words, that in employing general terms, or words which designate classes of things, the object before the mind is always individual, only accompanied by the consciousness that this individual object is like various other individual things in certain qualities or respects. There can be, therefore, no such general notion, as was formerly contended for by some philosophers, which embraces the distinctive characteristics of every individual of a class, yet so generalized as to apply to no one in particular; as, for instance, of a triangle, which is at the same time rectangular and oblique, equilateral and scalene, and yet neither the one nor the other. This is now generally admitted, and the only difference between nominalists and conceptualists seems to be, as to whether the mind in using general terms always and necessarily calls up individuals, or is concentrated, as far as it realizes any thing beyond the word, upon the bundle of qualities common to the class, abstracted from any and all particular objects. The latter is the view of the conceptualist, and as it seems to me, the true view.

III. CONCEPTUALISM.

1. *What the theory is.* — This is the theory of conception described in the previous sections of this chapter, and that now more commonly held by philosophers. According to this theory, general notions exist, indeed, but only as thoughts, or products of the mind. They are mere formal representations of classes of objects, constructed by the mind from its observation of their

common marks. They are thus but mental modifications, or thoughts of certain attributes common to classes of objects.

2. *The use of general terms according to this theory.* — Doubtless language is of great use — nay, indispensable, even — in conception, as in other mental operations. When we have formed a concept, we give it a name, which fixes and records it, and thus preserves it for future use. This name, ever afterwards, stands as the sign of the concept, and recalls it whenever it occurs. Some of these general terms are mere arbitrary signs of the things signified, and some of them contain in their etymology some allusion to the qualities represented by them ; as, *animal* (something having *life*), *vegetable* (something that *grows*), *happiness* (something which we owe to *hap* or fortune) ; so also, *inertia*, *gravitation*, *isomorphism*, *homœopathy*, etc. Thus, as Aristotle remarks, general names are often only abbreviated definitions.

SECTION V.

IMPORTANCE OF CONCEPTION.

1. *Conception compared with perception.* — Conception, as we have seen, is apprehending, or grasping together, the marks or characters which constitute the common nature of classes of related objects. By perception we become acquainted with the qualities of individual objects, by conception we form notions of classes of objects. In perception the qualities are all directly given in a single individual object, in conception the common qualities of many different yet related

objects have to be abstracted by a reflex mental effort. Conception, therefore, requires a much higher mental energy, and hence is a much more difficult process. If, then, men often use their senses so poorly that their perceptions are inadequate and indistinct, how much more danger is there of their conceptions being so?

2. *All our higher knowledge depends upon the adequacy of our conceptions.*—At the same time, all our higher knowledge depends upon the adequacy and distinctness of our conceptions. As accurate perceptions are necessary, in order that we may have the materials for forming accurate conceptions, so accurate conceptions are necessary, in order to an adequate knowledge of all above individual things. All the knowledge expressed by general terms, as indicating more than a single object, all that is reached by judgment or the longest process of reasoning,* depends upon the accuracy and adequacy of our conceptions. If our conceptions are inadequate, not only is our knowledge of classes of objects, and of all general and abstract ideas, defective, but our inferences and deductions from them are unreliable. And how large and important a portion of knowledge is thus affected, may be seen by considering how few of the ideas which form the staple of our thoughts are expressed by proper names or singular terms.

3. *Fruitful knowledge is not the knowledge of words, but of things.*—When knowledge becomes a mere knowledge of words, and philosophy only a series of logomachies, they must necessarily be devoid of fruit. It was so in Bacon's time, who, with his usual felicity,

* Thinking is defined by Mansel (*Prolegomena Logica*, p. 22) as "the act of knowing or judging of things by means of concepts."

pointed out the cause in a single word, by saying that science had become so unfruitful, because it had *lost its root in nature*. The leading Schoolmen, who brought on this state of things, were either nominalists or idealists, both of which views tend to carry off the mind from nature, and entangle it in barren subtleties. Knowledge becomes fruitful only as our words are merely the signs of distinctly formed concepts, filled with a living content, direct from nature. The mind is enriched only as it grasps the reality of things. To show the importance of conception, let us take a few illustrative cases from the sciences.

4. *Illustrations from astronomy.*—Astronomy furnishes many forcible illustrations of the importance of conception in the study of nature. Nothing is more familiar to us than the phases of the moon, and yet how inadequate the conception, in most persons, of the actual relative positions of the sun, earth, and moon, from which those successive phases result; and how impossible it would be for them to represent and explain these relations to another, and deduce the phenomena from them! One may even have solved all the mathematical questions pertaining to the subject, and obtained the formulæ which express all the facts, as thousands have done, and yet have no adequate notion of the thing itself—no mental picture of the actual relations of the three bodies from which the phases arise. So one may be able to calculate an eclipse, without really conceiving the relation of the bodies from which it arises; nay, may have mastered, perhaps, the formulæ of the Mechanique Celeste, without having any thing more than the vaguest conception of the real mechanism of the heavens. The solution of such

questions by the algebraic method does not necessitate the actual formation of the implied concepts, nor is a true and vivid conception of all the facts and relations involved in the case always reached, though they are much more likely to be, even by the geometrical method of solution.

5. *Illustrations from other sciences.* — Other sciences furnish scarcely less forcible illustrations of the importance of conception. What knowledge is conveyed to us by the term "stereographic projection," or by the mere process of finding the formulæ which apply to it, if we do not actually form a conception of the thing itself? How are we profited by the terminology of Chemistry, Geology, Natural History, Physiology, or Psychology, unless we actually form the conceptions indicated by the different terms? Merely to learn the words and repeat them from memory is of no avail. They must be apprehended in their meaning in order to enrich the mind at all. And so in all cases. There is nothing in which men fail more than in forming distinct and accurate conceptions, and no more defective education than that which encourages a mere knowledge of words, rules, and formulæ, to the neglect of ideas.

CHAPTER VII.

JUDGMENT.

SECTION I.

NATURE OF JUDGMENT.

1. *What judgment is.* — Judgment is the power of viewing one concept as being (or not being) equivalent to or a part of another concept. Without this power our concepts would remain isolated, each being viewed by itself, without any connection between them. It is by the judgment that their relations are perceived, and that they come to be regarded as equivalents or parts of each other. Thus, having a concept of *man* and of *changeableness*, I perceive that changeableness forms a part of my concept of man, and therefore say, “man is changeable,” or “changeable man.” So we say, “man is a rational animal,” “man is not immortal,” “a tree is a plant,” etc.

2. *Meaning of the word “part” in the above definition.* — In the above definition, the term *part* is used in its most general sense, as denoting *any thing belonging to*. According to Aristotle, every judgment declares either the *genus*, or the *definition*, or the *property*, or the *accident* of its subject. In the first case, the idea expressed by the predicate contains the subject as a *part*, in the second, the two ideas are *equivalent*, and in the others, the predicate expresses a *quality* (property or accident) of the subject; as, “man is an animal,” “man is a ra-

tional animal," "man is a warm-blooded animal," "life is sweet."

3. *Possible judgments.* — Whatever concepts are united in a judgment must be regarded as holding one or the other of the above-named relations to each other. When, therefore, any two concepts which do not admit of such a relation are brought together in the form of a judgment, the judgment is inconceivable. We often have occasion to use such judgments, but only as *suppositions*. Though inconceivable in themselves as positive judgments, they are possible forms of thought, and quite conceivable as *assumptions*. Thus, for the purposes of demonstration, we may suppose a square to be a triangle, the three angles of a triangle to be greater or less than two right-angles, two straight lines to enclose a space, etc. These and the like, are intelligible as suppositions, though not as positive judgments.

4. *Conceivable judgments.* — A judgment is conceivable only when the relation asserted to exist between the two concepts is conceivable. It is not sufficient, as seen above, that the form of expression be intelligible, so that we comprehend the relation assumed; to make a judgment conceivable, it must be capable of being construed to the mind, of being thought as possible, of being brought into a consistency of representation. No such consistency of representation is possible in such a judgment as "a square is a triangle;" but that "man is mortal," "sugar is sweet," or that "space may exist either occupied or unoccupied by material objects," may be easily construed to the mind.

5. *True judgments.* — A true judgment is one which is according to the facts of nature. It expresses what is known as true. It is not enough, in this case, that

the relation asserted between the two concepts should be conceivable, it must be real. "Men are infallible," is a judgment entirely conceivable in itself, though far from being true. But the propositions, "men are fallible," "two straight lines cannot enclose a space," are true judgments, being in accordance with what we know, either from experience or intuitively. In all forms of judgment both concepts are known, but in true judgments, the assumed relation of the concepts, also, is in accordance with what we know.

6. *Judgment implies comparison.*—Judgment, of course, implies comparison. The relation which is asserted or denied to exist between two concepts, can have been perceived only by comparing them together. When one asserts, "snow is white," he implies, that, in comparing his notion of snow and whiteness, he perceives that the quality belongs to that subject. But in that affirmation by the mind, in all its operations, of the existence of some object before it, either real or ideal, which Sir W. Hamilton calls an "assertory judgment," and Mr. Mansel, a "psychological judgment," there is no proper comparison; it is only the assertion of an immediate state of consciousness. Thus, when I assert that there is a real object before my mind in perception, and an ideal object before it in imagination, I only assert what I am immediately conscious of,—there can be no comparison in such a case, except it be that of something with nothing.

7. *Depth and breadth of judgments.*—When the relation between the two concepts in a judgment is viewed as existing between the *marks* or *attributes* which they embrace, the judgment is regarded in its *intension, comprehension, or breadth*; but when between

the *things* embraced under them, it is regarded in its *extension* or *breadth*. Thus the judgment, "all men are mortal," means, according to its intension, "the attribute of mortality belongs to, or is one of the attributes of man;" according to its extension, "man belongs to the class of mortal beings."

SECTION II.

KINDS OF JUDGMENTS.

Judgments may be divided: according to the coincidence or non-coincidence of the concepts which they contain, into *substitutive* and *attributive* judgments; according to the form of the language in which they are expressed, into *categorical*, *hypothetical*, and *disjunctive* judgments; according to the agreement or repugnance of the ideas compared, into *affirmative* and *negative* judgments; according to the matter which they relate to, into *certain* and *doubtful* judgments; and according as the predicate merely explains or adds something new to the idea contained in the subject, into *explicative* (*analytic*) and *ampliative* (*synthetic*) judgments.

1. *Substitutive and Attributive Judgments.*—This is a general division of all judgments. As we have seen in the preceding section, all judgments assert, either that two concepts are equivalent to each other, or that one is a part of, or belongs to, the other. In the first case, the judgment is substitutive, in the second it is attributive. Thus, in the judgment, "man is a rational animal," the two concepts being equivalent, the subject and predicate may change places (i.e., one may be

substituted for the other) without affecting the truth or propriety of the judgment. It is just as true that "a rational animal is a man," as that "man is a rational animal." But in such judgments as "life is sweet," "the rose is a flower," the subject and predicate cannot with propriety be made to change places, since the one concept, in each case, is but a part, or an *attribute*, of the other.

2. *Categorical Judgments.*—In modern usage, categorical judgments embrace all judgments direct in form, whether positive or negative. They thus embrace all judgments, except hypothetical and disjunctive judgments. This is the common classification of judgments from Aristotle down. But in Aristotle himself, as shown by Sir W. Hamilton,* *categorical* is not opposed to *hypothetical*, but always means *affirmative*, whether applied to propositions or syllogisms.

3. *Hypothetical Judgments.*—These are apparently pairs of judgments, related to each other as cause and effect, condition and consequence; as, for example, "if it rains copiously, the rivers rise;" "if you neglect to sow, you cannot expect to reap." But in all such cases, there is in reality only a single judgment, a single assertion, which is, that *if* one thing happens, *then* another will. Giving it, therefore, its true logical form, the hypothetical judgment becomes "*the case (fact, notion)* of its raining copiously is *a case (fact, notion)* of the rivers rising."

4. *Disjunctive Judgments.*—Here, too, there are apparently two judgments, but really only one. Such judgments bring together, as alternatives, two concepts, *both* of which cannot be true, but *one* of which must

* Philosophical Discussions, p. 151.

be; as, "either the miracles of Christ were real, or he was a gross impostor." The real judgment here, reduced to its logical form, is, "the possible cases in regard to the miracles of Christ are, that they were real, and that he was an impostor."

5. *Affirmative and Negative Judgments.*—Judgments which express an agreement of two concepts, as wholes, or as whole and part, are called affirmative judgments, while those which express a want of such agreement are called negative judgments ; as, "life is short," "man is not immortal." But when the negative does not affect the copula, but the subject or predicate, the judgment is affirmative ; as, "*not* to submit would be madness," "all human virtue is *imperfect*." A judgment like this last, with a negative or privative expression in the predicate, is sometimes called an *indefinite* judgment.

6. *Certain and Doubtful Judgments.*—Judgments pertaining to what is called necessary matter, as the relations of time, space, number, and degree, as developed in the various mathematical sciences, are made with the utmost confidence and certainty ; such as, that "two and two make four," "two straight lines cannot enclose space." But judgments relating to contingent matter are made with less certainty, varying in different cases, and are received with more caution. The judgments, "truth is great and will prevail," are probable, though not certain. So of judgments based upon testimony ; as, "Cato killed himself at Utica," and in the other departments of probable truth.

7. *Explicative or Analytic Judgments.*—Such judgments merely *unfold* or *analyze* the subject in the predicate,—the predicate merely draws out and repeats in

another form the idea contained in the subject. Such are the judgments expressed in the common logical and mathematical axioms and definitions; as "a whole is equal to the sum of its parts," "a circle is a curved line, every point in which is equally distant from a point included by it, called the centre." Such, too, are judgments in contingent matter, when the predicate is thought as *necessarily* involved in the subject; as, "all bodies are extended." Analytical judgments are not strictly identical, although the concepts in the subject and predicate are equivalent to each other. The concepts are the same in substance, to be sure, but being different in form, the one is drawn from the other only by an act of mental analysis.

8. *Ampliative or Synthetic Judgments.*—These are judgments in which something is added in the predicate to the idea contained in the subject. They express an *enlargement* of our knowledge, a *putting together* of two notions not actually involved in each other and thought as necessarily belonging to each other. Such judgments relate chiefly to contingent matter and probable truth; they indicate the enlargement of our knowledge through experience. Thus, when we say, "iron is ductile," we indicate by the predicate a quality not thought as necessarily involved in the very notion of iron, but one which has been discovered to belong to it by experience.

9. *Judgments not to be classified as Propositions.*—The classification of judgments as *propositions*, and their significance as such, belong to logic. There are commonly reckoned six distinct forms of propositions, to which Sir W. Hamilton, carrying out a thorough quantification of the predicate, in negative as well as

affirmative judgments, has added two more, making eight in all. We may embrace, in both affirmative and negative judgments, the whole of the subject and predicate, a part of the subject and predicate, the whole of the subject and a part of the predicate, a part of the subject and the whole of the predicate.

CHAPTER VIII.

REASONING.

SECTION I.

NATURE OF REASONING.

1. *What reasoning is.*—Reasoning, when drawn out in full, consists of a series of judgments, in which every third judgment is deduced from the two preceding. The smallest movement in reasoning consists in deducing a third judgment from two others. This constitutes a single step, and is called, in logical language, a *syllogism*. As the mind advances from individuals to classes in conception, and from classes to combinations of classes in judgment, so it advances from judgments to combinations of judgments in reasoning. In reasoning, the object always is, from judgments already formed to reach other judgments which are legitimately deducible from them. This is done by the introduction of intermediate judgments. Thus, from the given judgment “all animals are mortal,” I conclude at once that “man is mortal,” as soon as I learn that “man is an animal.” But from the judgment, “a triangle is a figure with three sides and three angles,” we reach the conclusion that “the three angles of a triangle are equal to two right angles” only through several intermediate deductions.

2. *Argument, syllogism.*—A reasoning expressed in words is called an *argumentation* or *argument*; though

properly, *argument* is only the discovery and application of the means of proof, of *middle terms*. But as already stated, a reasoning, or rather, a single step or process of reasoning, drawn out in full, so as to express the complete form and exact order of thought in deducing a conclusion legitimately, is called a *syllogism*. Thus while one would say, in common argumentative discourse, "this liquid is poisonous, for it contains arsenic," if he were required to show more clearly the order of the thought, and the legitimacy of the conclusion, he would draw it out in full syllogistic form:—

Every thing which contains arsenic is poisonous.

This liquid contains arsenic,

Therefore this liquid is poisonous.

3. *Designations of the different judgments in a syllogism.*— In a syllogism, the judgment which we wish to establish is called the *question* or *problem*, at the outset, and the *conclusion*, after it has been established; while the judgments from which it is deduced are called *premises*,— the general judgment with which we start, the *major premise*, and the mediating judgment, the *minor premise*. Thus, in the preceding syllogism, the question at the outset is, "is this liquid poisonous?" and the conclusion deduced from the other two judgments as premises is, that "it is poisonous."

4. *Reasoning is generally abridged in common discourse.*— In the language of common discourse, the process of reasoning is generally abridged, by omitting one of the premises, or even the conclusion; and often the order of the premises and the conclusion is inverted. The speaker or writer comprehending the reasoning dis-

tinctly himself does not feel the necessity of drawing it out fully, and in exact form, in expressing it to others. But such an argument being defective in form may be disputed by the caviller, or illegitimate reasoning may be passed off as legitimate under such forms. But a syllogism, drawing out the reasoning in full, cannot be disputed, and will always exhibit any latent fallacy which may lurk in the reasoning.

5. *The syllogism a test of reasoning.*—The syllogism, therefore, is only common reasoning drawn out in full, and in the best order to exhibit the legitimacy of the conclusion. It is common reasoning, though not in the precise form, nor in the exact language of common discourse. It is a universal test of reasoning, and a sure protection against all fallacies. Thus, should it be said, “trade is depressed, therefore the country must be misgoverned,” this might be passed off in a political harangue as very good reasoning; but let it be drawn out into a syllogism and the fallacy is apparent at once. Thus :—

Trade is depressed,
Therefore the country is misgoverned,
For every country is misgoverned where trade is depressed. *

Putting in, thus, the general judgment implied but not expressed in the first form, the inconclusiveness of the reasoning immediately becomes obvious.

6. *Ground of the conclusion in a syllogism.*—The object of all reasoning is to establish as true certain

* This form of the syllogism is called *analytic*, since the premises follow the conclusion as its reasons. The *synthetic* form, which places the premises first, is more common, but no more legitimate, or convincing.

conjectural judgments which occur to us in the experience of life. And as all judgments consist of two concepts, which are legitimately united in thought only as they are seen to agree as wholes or as whole and part, the object of the syllogism is to exhibit conspicuously their agreement, *through the introduction of a third notion*, which agrees with both of the notions of the judgment to be established, either in whole or in part, and hence warrants the conclusion, since two concepts which agree with a third must agree with each other. Thus, should we conjecture of a certain disease that "it is fatal" in its character, if on further investigation we discover it to be *consumption*, we have hit upon a notion which agrees with both "disease" and "fatal" (i.e., combines in itself both these ideas), and hence may say (introducing this as a middle term), "this disease (which is consumption) is fatal;" or drawing out all that is implied in this statement in the form of a syllogism:—

All consumptions are fatal.
This disease is consumption,
Therefore it is fatal.

7. *All reasoning may be resolved into syllogisms.*— All reasoning is of this nature. If sound, it may always be drawn out into syllogisms; the longest train of reasoning, when fully and formally expressed, is only a series of syllogisms. It is the same in probable and in demonstrative reasoning. Logic takes no account of the matter to which the reasoning relates; its forms are the same whether applied to necessary or contingent matter. Indeed, it does not even vouch for the *objective truth* of either its premises or conclusion, but

only for the *sequence* of the one from the other. Thus, the following syllogism is a legitimate form of thought, though obviously false in fact:—

All men are perfect.
John is a man,
Therefore he is perfect.

8. *The discovery of the media of proof.* — Reasoning being such as here described, it will readily be seen that the chief difficulty in the process must lie in the discovery of middle terms, or what is called in common language, the *media of proof*. As these media are always notions pertaining to the general subject of inquiry, and lying between the premises and the conclusion, they are generally best reached by an attentive study of the subject in itself and in its connections. In mathematical reasoning, where the conclusion is developed directly out of the premises, we have little more to do, in order to discover the media proof, than carefully and patiently to consider what is given, in all its elements and contents. But in inductive reasoning, and probable reasoning generally, where truth as realized in nature and in life is to be established, the media of proof are to be sought from a wider field; though even here they are always related to both premises and conclusion, else, indeed, they could not serve as media of proof at all.

9. *Discovery of the media of proof in inductive reasoning.* — In inductive reasoning, the guide to the connecting conception is analogy or likeness, and the success of the inductive reasoner depends partly upon the closeness with which he scrutinizes every thing pertaining to the subject which he is investigating, and partly

upon the readiness with which he seizes upon analogies among the objects which pass under his scrutiny. It was thus that Newton saw the law of gravitation in a falling apple, Oken the vertebral column in the skull of a deer, and Goethe the flower of a plant in its leaf. Newton, as he has informed us, owed his discoveries chiefly to the patience with which he studied his subjects, while the other discoverers here named, seem to have owed their success more to a lively imagination, which enabled them to see analogies that escaped duller though more patient students.

10. *The object of reasoning.*—From what has been said, it will be seen that the object of reasoning is, to extend our knowledge from what we know to what we do not know—to enable us to form wider and wider judgments with regard to things. The human mind tends irresistibly to a unity of knowledge. It seeks so to arrange, and classify, and subordinate its knowledge, that in its highest synthesis, it may all stand under a single relation, and be embraced in a single affirmation. In this generalizing process, reasoning follows upon conception and judgment, and completes the work which they begin.

SECTION II.

KINDS OF REASONING.

1. *All kinds of reasoning are the same in form.*—As already stated, reasoning in all cases is the same in form, being always capable of reduction to the form of a syllogism. But there are certain recognized distinctions in the process, depending either upon the

order of the thoughts or the matter to which they pertain, which deserve a passing notice.

2. *Inductive and Deductive Reasoning.*— This is a general distinction of reasoning into two counter wholes, depending upon the reversed order of the thoughts in the two cases. In inductive reasoning, we proceed from the particular to the general, from the parts to the whole; while in deductive reasoning, we proceed from the general to the particular, from the whole to its parts.

3. *Principle of the two processes as stated by Hamilton.*— Of the two processes, Sir W. Hamilton * remarks, “The former is governed by the rule: *What belongs (or does not belong) to all the constituent parts, belongs (or does not belong) to the constituted whole.* The latter by the rule: *What belongs (or does not belong) to the containing whole, belongs (or does not belong) to each and all of the contained parts.*”

4. *Induction usually precedes deduction.*— As general notions, with a few exceptions, are formed from experience, induction must usually precede deduction. In the investigation of nature both are necessary, and they usually alternate with each other,— induction establishing a general truth, and deduction, again, inferring some particular from it, and thus testing it. Thus, induction having rendered it probable that the diamond and charcoal were the same general substance, deduction inferred, that if so, then the diamond would burn, which was found to be the fact, and hence their identity was established beyond all doubt or cavil.

5. *Imperfect inductions.*— Induction is often used loosely for observation, or the investigation of facts

* Philosophical Discussions, p. 159.

preparatory to induction, and generally, among physical inquirers, for those imperfect inferences which proceed from *some* to *all*. In such cases, the inference is not based upon any necessity of thought, but upon the material probabilities of the case; and though all-important as a guide in the investigations of nature, is logically defective. Hence most of our general principles, established by the induction of experience, are but probable truths. We say "all men are mortal," and have no shadow of doubt of the fact, though it is far from being a complete induction. Men are mortal as far as our experience goes, and, from the uniformity of the laws of nature, we are confident that they will always prove to be so. But from the nature of the case, the mortality of man can never be universally established till the end of time.

6. *A-priori* and *A-posteriori* Reasoning.—This famous distinction of reasoning, at least according to present usage, depends chiefly upon the different character of the premises from which the reasoning proceeds. The reasoning in both cases is deductive; but in the one case the premises are derived from experience, in the other they are not. Of the use of the two terms, as designating elements of knowledge from which inferences may be made, Sir W. Hamilton * remarks, "The term *a priori*, by the influence of Kant and his school, is now very generally employed to characterize those elements of knowledge which are not obtained *a posteriori*—are not evolved out of experience as factitious generalizations; but which, as native to, are potentially in the mind antecedent to the act of experience, on occasion of which (as constituting its

* See Wight's Hamilton, p. 66.

subjective conditions) they are first elicited into consciousness."

7. *Distinction between the two kinds of reasoning according to Hamilton.*—As applied to reasoning, the same author * says of the terms: "Previously to Kant, the terms *a priori* and *a posteriori* were, in a sense which descended from Aristotle, properly and usually employed,—the former to denote a reasoning from cause to effect, the latter, a reasoning from effect to cause. The term *a priori* came, however, in modern times, to be extended to any abstract reasoning from a given notion to the conditions which such a notion involved; hence, for example, the title *a priori* bestowed on the ontological and cosmological arguments for the existence of the Deity. The latter of these, in fact, starts from experience—from the observed contingency of the world, in order to construct the supposed notion on which it founds. Clarke's cosmological demonstration, called *a priori*, is therefore, so far, properly an argument *a posteriori*."

8. *Probable and Demonstrative Reasoning.*—This is a distinction of reasoning depending upon the effect which it produces upon the mind in different cases. The one kind of reasoning carries with it evidence which is irresistible, the other, only such as renders the conclusion probable. Yet, the process of reasoning is precisely the same in the two cases. The whole difference lies in the matter to which the reasoning, in the two cases, is applied. Reasoning on necessary matter is demonstrative or apodictic, on contingent matter, only probable.

9. *Necessary and contingent matter.*—Necessary

* See Wight's Hamilton, p. 66.

matter includes all objects of thought on which we always and *necessarily*, in any given case, think the same; and contingent matter, all other objects of thought. Hence, space, time, number, and degree—i.e., in brief, *quantity*—in their various relations, constitute the only absolutely necessary matter. All other matter is more or less contingent. Our knowledge of facts may be definite and certain, and various first principles of knowledge, as well as modes of conception, may be necessarily received as such by all men, but nothing except quantity presents an object of thought on which, in its various parts and relations, all men not only do, but *must*, think alike, if they think at all.

10. *Mathematical reasoning*.—In mathematical reasoning,—which alone, in the strict sense of the word, is demonstrative reasoning,—both the question and every step in the solution are not only perfectly definite, but incapable of being apprehended differently,—if really apprehended, they must be apprehended alike by all and at all times. Thus, the definition of a circle, of a square, a triangle, etc., is one and the same to all, and any relation between their parts must always be apprehended alike by all. Space is apprehended by all as admitting of perfect figures of all sorts, and of fixed relations between their parts, whether any such figures are ever actually constructed or not. There is the like ideal exactness and perfection in our conceptions pertaining to the other forms of quantity.

11. *How the case stands in probable reasoning*.—But in probable reasoning the case is different. Here the object to be reasoned about is not fixed and deter-

mined by our conceptions, but is variable and contingent, conforming rather to the laws of nature and the realities of things. Suppose we wish to prove the existence of the soul after death, the obligations of morality, or any of the ten thousand questions pertaining to life and reality, we find no definite notion to start with, as in mathematics, which really contains the conclusion in itself, and which can be developed to the end through a series of necessary judgments ; but are obliged to start from this or that admitted fact or truth (and these, perhaps, not *universally* admitted), and proceed by merely probable inferences drawn from various, diverse, and often uncertain, relations, till we reach the conclusion. Such reasons may be sufficient to incline the mind to a particular conclusion, as against those which tend to any other conclusion ; but they are never quite sufficient to necessitate the conclusion, and render any other impossible. Still, if sufficient to control the reason, they are sufficient to control the conduct (*mores*) also ; and hence it is that probable reasoning is sometimes called *moral* reasoning.

12. *Demonstrative reasoning not the most important because the most convincing.*— But we are not to infer that demonstrative reasoning is the most important, because it is the most convincing. A conclusion which is probably certain ought to control our conduct as readily as one which is demonstrably certain. That the proof preponderates on one side is sufficient to determine the reason, and should be to determine the conduct. If it does not, it is evidence of something wrong in our character ; and thus the fact that every question cannot be made demonstrably evident, becomes an important test and trial of character. Be-

sides, as life has to do chiefly with things contingent, probable reasoning is much more used by us, and hence is much the most important to us. As remarked by Bishop Butler,* “to us [beings of limited capacities, as we are] probability is the very guide of life.”

13. *Abstract Reasoning*.—This is reasoning from a general notion to its conditions or consequences. In terms it embraces mathematical reasoning, and indeed, all reasoning where there is no appeal to experience. But it is chiefly applied to that species of probable reasoning, which deduces conditions or consequences from general notions; as, for instance, the existence of God, from our conception of space; or future rewards and punishments, from the fitness and unfitness of actions.

SECTION III.

FIRST PRINCIPLES OF REASONING.

1. *The whole structure of knowledge depends on reasoning*.—As we have seen, it is by reasoning that our thoughts are combined and the whole structure of our knowledge reared. Nay, even the very foundations of knowledge depend upon reasoning. All thoughts are compared with each other by the reason, and are either accepted or rejected according as they are found to be consistent or inconsistent with other things. All knowledge being thus at the mercy of reason, it becomes important to know within what limits its authority is legitimate, and what are the bounds to its action fixed in the nature of things. Even the reason must be reason-

*Introduction to the Analogy.

able. In the nature of the case it cannot give reasons for every thing. Being limited in its nature, it must not attempt to pass certain bounds. As shown in an earlier chapter, it must accept as final certain admitted judgments of fact, certain necessary conceptions, and certain laws of thought.

2. *Primary judgments of fact.* — Primary judgments of fact relate to things contingent, and are such as these: *thought implies the existence of a thinking being to whom the thought belongs; quality implies a substantive existence in which it inheres; whatever is perceived by the several senses exists, and substantially as perceived; whatever is recalled by the memory did exist as remembered;* and in general, *consciousness makes a true and reliable report of our experience.* And not only so, but, that in the natural and unperverted state of things, men not only experience the truth, but speak the truth, and hence, that *facts may be established by evidence.*

3. *All probable reasoning is impossible unless these facts be accepted as final.* — Without the admission of these, and perhaps other kindred judgments of fact, as primary and indisputable, all moral, or probable reasoning is impossible. All reasoning of this sort rests ultimately upon experience, and hence requires that the primary elements of experience be received as indisputable facts. If they be not thus received, there is no end of controversy, nothing in life can be settled, and the whole fabric of practical and empirical knowledge at once falls to the ground. It was thus that Hume subverted the fabric of knowledge in his time, and it was only by building upon these primary truths of fact, in a more sure and cautious manner, that it was again restored by Reid and his followers.

4. *Necessary first truths.* — Much of reasoning, also, rests upon certain *necessary* truths or judgments. Such judgments are: *every effect must have a cause*; *all objects exist in space and time*; *space admits of various definite and perfect relations both among objects and the different parts and positions of the same, as time does among events and the different periods of the same existence*. We think every effect as necessarily having a cause, and can neither annihilate space and time in thought, nor conceive them otherwise than as media which admit of all possible forms, proportions, motions, successions, and relations of quantity.

5. *Consequences of denying these truths.* — Our conceptions of space, time, and number, lie at the foundation of mathematical reasoning. If denied, therefore, the mathematical sciences are undermined. But they cannot be denied; they are necessary truths, forcing themselves upon us with a power which defies disbelief. Hence, the mathematical sciences, as being at least formally true beyond all possibility of doubt, have never been seriously assailed by scepticism. This is not true, however, of the doctrine of causation. Our idea of causation being regarded by Locke as wholly empirical, it fell, with other empirical knowledge, before the scepticism of Hume, and with it the proof of a First Cause, until restored on a surer foundation by subsequent philosophers.

6. *Axioms and laws of thought.* — Reasoning, also, rests upon certain axioms and laws of thought. Some of these *axioms* are employed exclusively in mathematical reasoning; as, “a straight line is the shortest distance between two points,” “two straight lines cannot enclose a space,” etc. Others may be employed, also,

in probable reasoning ; such as, "the whole is greater than its part," "things that are equal to the same thing are equal to each other," and the like. And besides these axioms, there are three well-known *laws of thought* which are constantly appealed to in reasoning as of ultimate authority. These laws are denominated the Principle of Identity, the Principle of Contradiction, and the Principle of Excluded Middle.

7. *The Principle of Identity.*— This law teaches, that there is something in every object which constitutes it such, and that it is always conceived as the *same*; i.e., itself, and not another object. Hence it is always to be treated as the same, without doubt or cavil. We are not at liberty to question its sameness every time it recurs, but are required to receive it in the character in which it presents itself. And not only so, it is this principle which lies at the foundation of all legitimate judgments ; since, as we have seen, concepts are united in judgments only as they are regarded as agreeing with each other (i.e., as being the *same*) either in whole or in part. But more particularly, the principle applies to all analytical judgments. In such judgments the predicate is developed wholly out of the subject, which is effected only by our being able to cogitate it as the same, though under a different form.

8. *Principle of Contradiction.*— This principle has been variously stated; as, that "the same attribute cannot be at the same time affirmed and denied of the same subject," or, that "the same subject cannot have contradictory attributes," or, that "the attribute cannot be contradictory of the subject." But the meaning in all cases is, that regarding an object as possessing any given attribute or character, we cannot at the same

time conceive it as having an attribute or character which contradicts or denies the former. Thus, we cannot at the same time think of any thing, that it both *is* and *is not*, that it is *white* and *not white*, *extended* and *not extended*, etc. In like manner, having established any given judgment or proposition, we always unhesitatingly reject its contradictory.

9. *Principle of Excluded Middle.*—This principle teaches that there is no middle condition between being and not being—that an object either *is* or *is not*, that a proposition or its contradictory must always be true, for there is *no middle course*. As we decide, on the preceding principle, that no object can *both* be and not be, and no judgment be *both* true and false, we decide on this principle, that every object must *either* be or not be, and every judgment *either* be true or false. We decide that such must be the case even when we comprehend neither of the alternative propositions. Thus we say of time, that it *must have either* an absolute beginning, or an infinite non-beginning.

10. *How these first principles are to be regarded.*—These and the like primary truths and principles form the starting-points, and warrant the procedure, in all reasoning. They are to be regarded as original convictions, imposed upon us by our mental constitution, and indicating the limitations of thought. As the human mind is limited, thought also is necessarily limited.*

* For a fuller exhibition of the nature and trustworthiness of the primary facts and truths of consciousness, see chapter ii.

SECTION IV.

IMPROVEMENT OF THE REASONING POWERS.

1. *They are improved by use.*—The reasoning powers, of course, are improved by reasoning, as the other powers are improved by their appropriate exercise. Action is the grand condition of improvement for all our powers. As we can improve our senses only by a careful and persevering use of them in the perception of external objects, and our memory only by tasking it in the association and recollection of events; so we can improve our reasoning powers only by their frequent and earnest employment in reasoning, or what in some way pertains to it.

2. *We should arrange our knowledge in logical order.*—In order then, to improve our reasoning powers, it is necessary, in the first place, that we should be in the habit of arranging and frequently retracing our knowledge in its logical order. By the “logical order” of things I mean, the order of their dependence in thought, as part and whole, means and end, premise and conclusion, reason and consequent, etc. It is not enough that we arbitrarily connect our thoughts by the thread of association, and recall them in that order—this is merely an exercise of memory, not of the reasoning powers. We reason, only as we proceed from thought to thought as logically dependent upon each other, and compelling our assent at every step. Reasoning is proving, and hence we reason when we seek to establish the truth on any subject. The investigation of truth, therefore, is the great field for the improvement of the reasoning powers.

3. *Mathematical reasoning as a source of improve-*

ment. — Mathematical reasoning, as we have seen, is virtually coincident with demonstrative reasoning. Of the effect of this kind of reasoning in improving the reasoning powers, different and even quite opposite opinions are held. Sir W. Hamilton, in an article truly marvellous for its compass and ability, comes to the conclusion, that mathematical studies exercise the reasoning powers but feebly, being chiefly “conducive to the *one sole intellectual virtue of continuous attention.*” * Others, again, consider mathematics as absolutely the most efficient means of cultivating the reasoning powers.

4. *What the truth in the case seems to be.* — These are the extreme views, and the truth, undoubtedly, as usually happens in such cases, lies between them. It is true that the object-matter of mathematics — *quantity* — is simple and uniform, and the various conceptions pertaining to its different parts and relations, clear and even necessary, while conclusions, however remote, are always implicitly contained in the premises, and are simply evolved out of them. Hence the course of deduction in mathematics seems to be of the simplest kind. The path being so plain, direct, and even hedged in on both sides, it scarcely seems possible for one to wander from it. Still, in mathematical, as in other reasoning, the object is, not simply to make a deduction, but the right deduction — a deduction not only true, but important; to come to a conclusion, not only correctly drawn from the premises, but establishing a particular point, and admitting of particular applications. Though the conclusion is always involved in

* Discussions on Philosophy, etc., p. 310.

the premises, it takes a good deal of reflection to perceive it, and something more than mere patience to trace it through a long line of deduction, which at the same time is but one line among many that might be followed. Though mathematical reasoning has no very wide application in the ordinary affairs of life, there can be no doubt that it is an important instrument for sharpening and strengthening the reasoning powers.

5. *Probable reasoning as a means of improvement.*— Probable reasoning embraces all reasoning which is not demonstrative in its character, and hence, in general, all except mathematical reasoning. It occupies a wide sphere, therefore, and from the diverse, variable, contingent, and uncertain elements with which it has to do, must require the most careful and intense exercise of our powers in order to conduct it safely. Its processes may be shorter than in mathematical reasoning, but the variableness and contingency of its matter make it more difficult to manage. The effect of this kind of reasoning in improving the reasoning powers will be seen by considering its procedure in those departments of study and mental exertion where it has the greatest scope.

6. *Influence of metaphysical and ethical studies in improving the reasoning powers.*— There is a large demand for the use of probable reasoning in metaphysical and ethical studies. Here the object is to establish the truth with regard to knowledge and duty,— to solve the questions, *What can we know?* and, *What should we do?* These and the collateral questions are among the most abstruse and subtle which the human mind has to deal with, and can be settled only by weighing

a thousand probabilities — often in themselves apparently as light as air — and observing the slightest preponderance of one over the other. The arguments by which the truth on these subjects is to be established, are so abstruse and subtle, as to task the human powers to the utmost to discover and appreciate them. I know of no better gymnastic for the reasoning powers, than Butler's discussions on Morals, and Hamilton's on Philosophy.

7. *Effect of forensic discussions in improving the reasoning powers.* — But the field where probable reasoning has its widest scope, is in the proof of facts. The proof of facts by "circumstantial evidence," as it is called, is but the proof of facts by probable arguments, and has always been considered as presenting the finest field for the exercise and display of the strength and ingenuity of the reasoning powers. When the fact to be established deeply affects human interests, and arouses the popular mind by its public importance, as the fact of a murder, or some great public outrage or fraud, it has always been a favorite theme for the orators, and, in different ages, themes of this sort have called forth such prodigies of argumentative eloquence, as the speeches of Cicero against Verres, of Burke in the impeachment of Warren Hastings, and of Webster in the trial of the Knapps. The construction of such arguments is among the highest efforts of the human reason, and even the careful reading and analysis of these great efforts of the master minds of our race are among the most profitable studies in which we can engage.

8. *Logic as a means of improving the reasoning powers.* — I might name, as another means of improving

our reasoning powers, the study of logic. Not that logic teaches the art of reasoning; logic is rather a *critique* of reasoning, than a system of rules for conducting it in practice. In the nature of the case, there can be no art of reasoning, except what is the result of the practice of reasoning. Reasoning proceeds by internal perceptions, not by external rules. We improve our reasoning powers, therefore, only as we improve our perception of the logical relations of ideas,—only as we sharpen our mental acumen. And it is in this way that the study of logic improves the reasoning powers. It treats of the logical relations of thought, and hence trains the mind to their perception. It analyzes the canons of thought, and thus lets us into its mechanism and familiarizes us with its processes. The study of logic, therefore, tends to improve the reasoning powers, but only as other studies and mental exercises do, by promoting the perceptions and habits which are essential to reasoning.

9. *Conclusion.*—It is by these, and the like means, that our reasoning powers—the last and noblest in that gradation of powers which it has been the object of this treatise to describe—are trained to that wonderous clearness of perception and facility of movement, which conduct us, step by step, with unerring precision, to the most remote and hidden truths. Reasoning is a search for causes, or first principles. It proceeds from things as they present themselves to us to things as they are, from thoughts to the conditions which they involve, from facts to principles, from effects to causes, and from nature to God. It is ever moving towards unity, as if instinctively tending towards that highest and sublimest affirmation of the Christian faith—"God ALL AND IN ALL."

APPENDIX.

ABSTRACT OF THE HISTORY OF SPECULATIVE PHILOSOPHY.

1. PHILOSOPHY has been defined to be, "the research of causes." It is the fruit of the inquisitive or speculative spirit of man. By the constitution of the human mind, all experience awakens reflection. We are not merely conscious of the successive facts and changes which transpire within and about us, as they pass, but are arrested by them, and led to reflect upon them. They awaken not only consciousness, but curiosity. The mind dwells upon them, compares them, contemplates, *speculates* them ; and in so doing, draws inferences from them, generalizes them, and, by degrees, ascertains their true relations and significance. Philosophy, therefore, in its incipient state, must be as old as our race. Its rude beginnings are first seen in the mythologies and cosmogonies of nations. These are as truly a search for causes, or first principles, as the later and more rational theologies and philosophies.

2. Among the ancient nations, philosophic thought advanced but little beyond its mythological tendencies, except in Greece, and subsequently in Rome. The history of ancient philosophy is little more than the history of Grecian philosophy. Among the Greeks, philosophy passed through every stage of development, and

presents, in epitome, a complete history of speculation. Here, as elsewhere, it commenced in mythologies and theogonies. The elements and powers of nature were personified and elevated into deities, as the generating and regulative principles of nature and natural phenomena. Facts were thus rudely classified and nature traced back to first causes. These causes, however, were rather imaginative than rational, assumed more as postulates of the religious instinct, than as deductions of reason. Greek philosophy, properly so called, begins with the Ionian Philosophers, *Thales*, *Anaximander*, and *Anaximenes*, about 600 b.c.

3. Philosophy, at the outset, would naturally be one-sided and partial. Thought, at first, would not penetrate very deeply into things, nor take a very wide survey of the objects of nature. It would be likely to seize upon only the coarser and more obtrusive elements and relations, and be satisfied with the most partial results. Commencing with the mere husk and shell of things, in the progress of ideas, we should expect it to penetrate deeper and deeper, and extend its survey to a wider and still wider circle, till it embraced all objects, whether near or remote, and all elements, whether coarse or subtle, and harmonized them under one consistent, rational view. And such we shall find to have been the constant tendency of thought. Philosophy has progressed as thought in general has progressed.

4. Primitive philosophy, then, will more commonly be of a physical nature. Intelligence will be regarded as little more than one of the many phenomena of the material universe, akin to, and scarcely more striking than motion, which is observed to exist in even unorganized matter. In the real ignorance of causes, all

nature will seem in some sense animated, and man scarcely more so than the rest. The first step of the philosopher, therefore, in attempting to account for what he witnesses around him, and to reduce the multifariousness of nature to unity, will be to assume some element, which may serve as the common basis of both mental and material qualities, and from whose various transformations, all the objects of nature, with all the phenomena of intelligence, life, and change, arise. At the same time, from the imaginative character of primitive ages, this *prima materia*, or elementary principle, will naturally be endowed with an inherent, dynamic force of self development, so as to operate from within all the various changes and transformations which it undergoes. Of this nature were the *archæ*, or first principles, of the Ionian philosophers.

5. THALES, the first in order, was born at Miletus, a flourishing Greek colony on the coast of Asia Minor, about 640 B.C. He is regarded by Aristotle as the first who attempted to establish a beginning of things on rational grounds, without the aid of myths. His doctrine was, "water is the beginning of all things." In looking around upon nature, organized and unorganized, this seemed the most universal element. He found moisture everywhere. Every thing seemed to be nourished by moisture, and indeed, to be made up of it, so as to be only moisture variously transformed. Earth was but water condensed, and air but water evaporized. He assumed water, therefore, as the universal basis of all things, as the *invariable substance* of which all special objects are but the *variable forms*. Hence, it was the single problem of his philosophy to

resolve all special existences into this, to show that this was the grand residuum in all analysis.

6. ANAXIMANDER, born also at Miletus, and contemporary with Thales, though somewhat younger, is commonly regarded as having pursued the same line of physical philosophizing. With him the first principle of all things seems to have been a sort of *chaos* (*apiron*), or, as Aristotle appears to have regarded it, a *mixture* of elements in a limitless and formless state. His *prima materia*, then, was a sort of general substratum, of an unorganized and heterogeneous nature, from which sprang, apparently by an inherent dynamic* action, the various objects, beings, and changes which constitute the phenomenal world. He seems to have felt that no single element was susceptible of all the various transformations necessary to constitute the different objects in nature. His analysis found more than one element in all objects, and so he conceived the different elements as in combination from the first, and evolving themselves into different forms to constitute the sensible world.

7. ANAXIMENES, the last † of the illustrious Miletian trio, known as the founders of the Ionian philosophy, was born about a century after Thales (548 b.c.), and pursued the same general line of investigation. With

* Ritter, however, considers his philosophy as of the mechanical sort, and Lewes, as of the mathematical. But the view expressed in the text is the more common and credible opinion. See Thompson's note to Wm. Archer Butler's History of Ancient Philosophy, vol. i, p. 320.

† *Diogenes* of Apollonia, in Crete, about a century later, took up the doctrine of Anaximenes, and further refined it. With him the "air" became *intelligent*, as well as animate, the *soul* both of man and nature,—the elementary *deity*, in short, animating and actuating all things.

him *air* was the beginning, or first principle, of all things. This seemed to him most like the general animating and constitutive principle of nature. It seemed to unite both material and spiritual qualities. It filled space, investing and nourishing all things, and was ever in motion, as if possessing an inherent spirit of life. All life was supported by air; the earth and all solid bodies were only air condensed in various degrees, while heat and cold were produced by different degrees of density in the same primal element.

8. HERACLITUS of Ephesus (born about 503 B.C.) continued the Ionian philosophy in substantially the same spirit as its original founders, though with more breadth and a greater tendency to the spiritual. With him *fire* was the first principle and substance of the universe. It was the common ground both of mental and material phenomena; not only the animating but the intelligent and regulative principle of nature. The phenomenal world was but a successive kindling and subsidence of this primal fire. He taught that the very existence of sensible things consists in change, in becoming and subsiding. All things are in transition, in a perpetual *flow*, or change, as reported by the senses. This is of the very nature of fire, which perpetually enkindles and extinguishes itself by an internal, self-regulating principle. Material objects exhibit this character in their ever-changing phenomena, and mind in its restless and fleeting thoughts,—for even God and the soul of man are but a more subtle flame. His system, in short, was that of *unrest* in every thing, produced by a sort of pantheistic development of the subtle, intelligent element which he called fire.*

* Heraclitus is known in history, or fable, as the *crying philosopher*;

9. ANAXAGORAS of Clazomenæ (born about 500 B.C.) is the last of the Ionian philosophers, and even in him the system had lost much of its original character. The tendency to spirituality, which was observed in Heraclitus, in Anaxagoras was carried so far that he substituted for the vague vital force of nature, adopted by the previous masters of the school, an infinite, independent, omnipresent principle of *intelligence (nous)*. At the same time, he held that all space was filled with infinitely small particles of inert matter of different kinds, which the regulative intelligence formed into objects differing as the primitive elements of which they were constituted differed. Natural objects were no longer regarded as self-developments of one or many elements, but as formed from an inert primitive chaos by an independent intelligent power, operating upon it from without. If we have not here the full conception of a Divine Creator and Providence, we have something very like it. Anaxagoras, though born at Clazomenæ, spent the prime of his life at Athens, and there taught his doctrine of an All-ordering Intelligence, which was afterwards so nobly carried out by Socrates and Plato.

10. We have thus seen in this series of philosophers, a constant tendency to more and more spiritual views of nature. Starting with the grosser elements as primal principles in the constitution of nature, and mind as wholly subordinate to matter,—a mere quality of

probably from his wearing a gloomy aspect, or, as some think, on account of the fleeting, unsatisfactory view of things to which his philosophy led. He is also called the *obscure*, most likely from the depth and peculiarity of his views. Thompson says of him (note to Butler's History of Philosophy), "He was perhaps the greatest speculative genius among the fore-runners of Plato."

it,— they gradually adopted the finer elements as first principles, and at last wholly extricated mind from nature, and placed the organization and control of matter entirely under the superintendence of a distinct principle of intelligence. Of course, it was admitted from the beginning, that the intelligence of man was superior to that of other animals around him, and especially to that of unorganized matter; but it was regarded as differing in degree rather than in kind. Every thing was regarded as having a species of animation, and hence a kind of intelligence, which was only more developed and more perfect in man and the gods, not at all different in kind. But little attention, therefore, was paid to the theory of knowledge. The Ionian philosophers do not appear to have held to any other knowledge than that of phenomena, and this, in general, they held to be very inadequate and deceptive.

11. If now we turn from the eastern shores of the Ægean to the western shores of the Adriatic, from the outlying Greeks in the east, to the outlying Greeks in the west, we shall discover a philosophical movement of quite a different kind. The line of speculation is here quite reversed. It is not so much the material which constitutes the world that is investigated, as the thought which underlies it; not so much the phenomenal world, as the intelligible and ideal. The phenomenal world seemed to these western philosophers too changeable and relative, not only to the mind, but to the particular organization of the senses of each individual, to be regarded as the real world. At a period when the true theory of perception was not understood, and the various "fallacies of the senses" were unex-

plained, sense-knowledge would naturally be discredited, and seem scarcely worthy of being considered knowledge. Thus, the inability to handle intelligibly and satisfactorily the world as it presents itself to the senses, drove these philosophers to the speculation of the ideal world, in which no such difficulties and contradictions occur. The succession of philosophers here referred to, though differing considerably in their views, and not all of them historically very closely connected, constitute what has been called the Italic School of philosophy.

12. PYTHAGORAS, the first in the series, was born in Samos, an island of the Ægean Sea, about 600 b.c., but spent the greater part of his mature life at Crotona, in the southern part of Italy. His fundamental doctrine was, "number is the principle of things." By this he could not have meant that number was the material or constitutive principle of things, but their determining principle, since number or proportion dominates in all things. Things are and can be only copies of certain forms or proportions. Such a doctrine was easily carried out into the mystical notions of number and harmony ascribed to Pythagoras and his followers. The soul, which he regarded as fire in its substance, was a copy of unity, the perfect number, and in allusion perhaps to his doctrine of the transmigration of souls, was called a "self-moving unit." At the same time, the divine mind was the primitive unit, from which all human minds were derived, and to which they stood related as units of an inferior order. The philosophy of Pythagoras has been called mathematical, but as it assumed a rational rather than a physical ground of nature, it deserves rather to be ranked as

metaphysical, with that of the Eleatic philosophers, to which we now proceed.

13. XENOPHANES the founder of the other great branch of the Italic Philosophy, called the Eleatic (from Elea, in Italy, the seat of the school), was born at Colophon, in Asia Minor, about the same time as Pythagoras, and having wandered from place to place in the character of a philosophic rhapsodist, finally settled in the above-named place in Italy. Although he alludes to Pythagoras, he does not seem to have had any proper historical connection with him. Indeed, his system, though having the common peculiarity of assuming a rational rather than a material ground for things, was entirely different, both in the character of its initial principle, and in its details. Instead of the barely harmonizing, or at most, but logically causal principle of number, Xenophanes assumed as the ground and operating cause of the changes in outward nature, an uncaused, independent, and intelligent Divinity. All outward changes were caused by the acts of his volition, and, apparently, were operated in a real world distinct from himself.

14. PARMENIDES, commonly supposed to have been the disciple of Xenophanes, was a native of Elea, and further carried out the system of his master. With him, the Deity of Xenophanes became *The One*, or Absolute Being. The phenomenal world was but an illusion — but a contexture of mental phantasms, without any reality corresponding to it. Real thought was confined to the absolute alone; so that thought and being were one. “He distinctly recognized that the existent, as such, is unconnected with all separation or juxtaposition, as well as with all suc-

cession, all relation to space or time, all coming into existence, and all change; from which arose the problem of all subsequent metaphysics, to reconcile the mutually opposed ideas of *Existence* and *Coming into Existence*."

15. ZENO, the last of the series of philosophers known distinctly as Eleatic, and a favorite disciple of Parmenides, was born at Elea about 500 b.c., and visited Athens with his master when about forty years old. He seems to have accepted the system of Parmenides as he left it, and to have devoted himself wholly to the task of defending it. To defend the *one*, he had to disprove the possibility of the *many*. This he attempted by exhibiting dialectically the contradictions involved in the common space-and-time relations. These contradictions are: 1. that as any space is infinitely divisible, no motion can commence in it; 2. that hence, the swiftest moving object cannot overtake that which moves most slowly; 3. that a body supposed to be in motion, inasmuch as it occupies space, must actually be at rest; 4. that one and the same space of time is both long and short. These are the subjects of his famous fallacies, some of which, at least, still await a solution. Zeno invented and applied to philosophy the method of *Dialectics*, which afterwards became so famous in the hands of Socrates and Plato, and was so abused by the Megarian philosophers.

16. EMPEDOCLES, of Agrigentum, in Sicily (born about 450 b.c.), belongs in spirit, as well as in locality, to the general class of Italic philosophers, though holding many Ionic and other views. He conceived the world as composed of four distinct elements, originally combined in a sort of chaos (called by him a

sphere), with two developing forces, *love* and *hate*. This totality of elements and forces he called God. He was, therefore, what in modern phrase is called a Pantheist; since his deity combined in himself both matter and developing power, so as to produce all things out of himself. The *One* or *God* of the Eleatics was thus retained, but more in the character of the self-developing principles of the Ionics. In the assumption of a chaos of different elements, he may seem to have borrowed from Anaxagoras and with him to have prepared the way for the atomic theory of Democritus, as he certainly did for the theory of perception held by this latter philosopher. Empedocles seems to have first propounded the doctrine, which, under various forms, has had so much influence in the history of philosophy,* that “like is only perceived by like.” Particles, he taught, are continually emanating from objects, which, entering the body through the pores, come in contact with like particles in the human frame, and are thus perceived; as though perception was a sort of chemical action between particles.

17. DEMOCRITUS, then (born at Abdera, in Thrace, about 460 b.c.), the chief founder† and cultivator of the Atomic Philosophy, related as are his views to those of both Empedocles and Anaxagoras, naturally closes the double movement of Greek philosophy on the opposite shores of Ionia and Italy, that a new and more hopeful movement may commence from Athens,

* See Wight's Hamilton, p. 190, note.

† Leucippus is called the founder of the school; but as he has left no record of his views, they are known only through Democritus and other reporters. Democritus, it will be recollectcd, is known as the *laughing* philosopher, in contrast with Heraclitus, the *crying* philosopher.

which has come to be the true centre of Grecian influence and refinement. As already stated, Democritus adopted substantially the doctrine held by Empedocles, of perception through the emanation of material particles or films from objects, brought into contact with corresponding atoms in the human frame. At the same time, the *atoms* of Democritus may have been suggested by the distinct elementary substances of Empedocles and Anaxagoras, though they differed from these elements in the important particulars of being indivisible, homogeneous, varying only in form, and, since existing in a vacuum, susceptible of motion, and hence of generation or dissolution, which they were constantly undergoing by the power of Fate, thus constituting the phenomenal world. Besides, Democritus taught that all the senses were but modifications of touch, and seems to have made the distinction between the primary and secondary qualities of matter. His system was decidedly materialistic, and was afterwards taken up and further elaborated by the Epicureans.

18. As we have already seen, the scattered rays of philosophy were fast concentrating at Athens. First issuing from the eastern shores of the Ægean, they had rested a while upon "sunny Italy," and glanced even upon the hyperborean regions of Thrace, till now they were rapidly converging upon the art-crowned Acropolis of Athena. Nearly all the more distinguished of the recent philosophers, both of the Ionic and of the Italic schools, had visited Athens, and many of them had taught and spent a large part of their life there. Thus was philosophy fairly inaugurated at this radiating centre of culture and influence. But, with the genuine philosophers, came also the sham philoso-

phers, called Sophists, or Wise Men, as professed teachers of the wisdom of the age. They were mostly from the outlying settlements of the Greeks, and generally had studied philosophy in some of the schools already described. Their object was to popularize philosophy and make it practical; to make the materials and culture wrought out by philosophy the basis of a liberal education for the ambitious youth of the free states of Greece,—in short, to adapt philosophy to public life, and make it speak and act. Their teaching, therefore, was a sort of philosophized rhetoric. Philosophy in their hands had no longer the simple aim of discovering truth; it became a sort of art, or knack,* and hence was regarded by mere speculatists, like Plato, as but a mock-wisdom, a sham. †

19. The leading sophists were PROTAGORAS, GORGIAS, HIPPIAS, and PRODICUS. As professed teachers of practical wisdom they received pay for their instruction. They doubtless differed from each other in many of their philosophical views, but all, apparently, held, with Protagoras, to a mere sense-knowledge of things, and that “the individual is the measure of all things.” Hence, there was to them no absolute standard of truth and right; these varied with each one’s individual perceptions. It does not seem certain that they fully carried out this view to its legitimate results in morals, though Socrates showed them that it was as applicable to moral as to metaphysical distinctions, and as subversive of the one as of the other. Though justly chargeable with narrow and unsafe views in philosophy and morals, and of having contributed to the undermin-

* See the Gorgias of Plato, 465, A., and at large.

† See the chapter on the Sophists in Grote’s History of Greece.

ing of morality by their rash and over-confident assertion of the sufficiency of the individual reason; yet, as active, popular teachers of wisdom, they diffused knowledge and awakened scientific inquiry much more extensively among the people than they ever had been before, and laid the foundation for that wonderful intellectual activity and culture, which henceforth distinguished Athens above all other Grecian cities.

20. Contemporaneously with the Sophists, **SOCRATES** (born in one of the suburbs of Athens, 468 B.C.), the most remarkable and gifted of the Greek philosophers, makes his appearance on the stage of Athenian history. The son of a sculptor and a midwife, he united in his character and views, the ideality of the artist with the practical skill of the artisan, and was equally expert in fashioning the conceptions of his pupils and in assisting them in being delivered of them. Springing from the middle class of society, and drawing his philosophy from his own experience and thoughts, rather than from books and professed teachers, he ever retained his sympathy and intercourse with the common people, and hence held his discussions in the shops and at the corners of the streets, exhibiting and enforcing his views by such familiar and homely illustrations as all could comprehend. As described by Plato and Xenophon, he opposed himself, in these discussions, partly to the physical philosophers—whose speculations he considered not only as unfruitful, but as little less than irreverent—and partly to the Sophists. In opposition to the mere sense-knowledge and individual opinion of the latter class of philosophers, he appealed to the intuitive perceptions and general convictions of men, as a solid foundation for the stability of truth and duty.

21. Socrates left no writings, and indeed taught no complete system of philosophy. He merely awakened, "watered," and fructified the germs of philosophic thought in the minds of others. He introduced a new *method*, rather than a new system of truth. His method was that of *induction*, leading to valid *definitions* or conceptions. Starting with some one of the general notions relating to man or society, to truth or duty, he gradually *led in* the mind of his opponent farther and farther towards the centre or essence of the conception, by showing one thing after another, commonly included in the notion, to be inconsistent with, or non-essential to, it. He thus taught men how to revise and purify their thoughts, which is the great end of metaphysical philosophy.* In these discussions he necessarily exhibited his opinions upon most of the important questions in philosophy, politics, morals, and religion, which always leaned to the side of the permanent, the absolute, the ideal, as opposed to the empirical and the changeable. His most positive teachings pertain to morals, where he held the paradoxical sentiment, that virtue was but wisdom, and hence was a science which might be taught. Vice, then, was but the fruit of ignorance. This might all be true, were it not for the influence of passion and habit, or wrong bias. But these are so important disturbing influences as to entirely discredit the theory. As wisdom and virtue were the same, of course, virtue and happiness would be the same; knowing the right would lead to right action, and right

* With Socrates, philosophy first became primarily a criticism of knowledge, a scrutiny of thought in order to determine its validity and value; and this has ever since been the chief problem of metaphysical philosophy.

action to happiness, i.e., true happiness would be found alone in virtue ; which, also, we find to have been a doctrine of Socrates.

22. From the vigorous root of the Socratic life and teaching there sprang up various offshoots, externally more or less akin to the parent stock, but generally quite alien in nature, and often engrafted with germs from other stocks. The extraordinary personal interest connected with the character and teaching of Socrates drew around him disciples of different temperaments and aims, as well as those with different local prejudices and variously pre-occupied by antecedent instruction in the other schools. At the same time, the wide and free scope of his instruction, as well as the peculiarity and somewhat undeveloped state of some of his doctrines, gave opportunity for different interpretations, and a basis for the rearing of widely differing systems. We should not be surprised, therefore, to find his disciples splitting up into varying sects immediately after his death. Free thought always produces sects, whether in philosophy or religion. The chief of these sects are the following : —

23. (I.) The MEGARIC SCHOOL. The seat of this school was Megara, and the founder EUCLID (not the mathematician), who was born at Megara about 440 b.c. Euclid had been a disciple of the Eleatic Parmenides before he heard Socrates. His system, therefore, very naturally partook of that of both his teachers ; — it appears to have been simply that of the *One* Eleatic, invested with the *ethical* coloring of Socrates. His *one* was *The Good*, but whether he attached any distinctly ethical meaning to *the good* seems uncertain. It is doubtful whether his ethical element was any thing

more than a coloring of Socratic language, while his real views were substantially the same as the Eleatics, not merely identifying virtue and science, as Socrates had done, but absorbing the moral into the rational, and making speculation the Chief Good. Euclid was followed by EUBULIDES, DIODORUS, ALEXINUS, and STILPO in the same general line of philosophizing. Like the Eleatics, their great instrument was logic, which they abused even more than Zeno. Stilpo more fully developed the ethical aspects of *The One*, by regarding the internal consciousness of personality as but an illusion, like the external consciousness of the phenomenal world, and making a profound impersonal *indifference* the highest attainable excellence. He was thus the author of the Stoical doctrine of *apathy*, afterwards so celebrated.

24. (II.) The CYRENAIC SCHOOL. This school was founded by ARISTIPPUS of Cyrene in Africa, a man of wealth and gayety, who, visiting Athens in the time of Socrates became his disciple, and remained with him till near the time of his death, when he quitted Athens, and after several years of travel in quest of knowledge and indulgence, finally returned to Cyrene and put forth his doctrine of "Pleasure the Chief Good." With him, the doctrine of Socrates, that virtue is happiness, was inverted, so as to become, happiness, or rather, pleasure, is virtue. The rule of pleasure was the rule of right, not the reverse. Pleasure and pain were the true *criteria* of actions; there was no higher *criterion*, no other indeed. Pleasures did not even differ in kind, they were all on a level. His doctrine was, the greatest present enjoyment is the greatest good, not holding even to a regulated happiness, as the Epicureans did later. Such a philosophy was but

little more than a license to indulgence, and of course, could not have had much credit with serious and earnest men. It is scarcely worth naming, except as the precursor of Epicureanism.

25. (III.) The CYNIC SCHOOL.— This was established by ANTISTHENES, an austere disciple of Socrates, in a quarter of Athens called Cynosarges, whence, probably, the name of the school. As a school of philosophy it is of little account; it had no philosophic system deserving the name, but only a repulsive, snarling asceticism. It cannot be denied that there was something bordering upon asceticism, both in the rigid virtue and singular if not shabby dress of Socrates. There was, also, a certain contempt and defiance of common opinions in his doctrines and manners. These were easily exaggerated by austere natures into the disgusting asceticism of the Cynics. Both the founder, and his most distinguished disciple, DIOGENES, were known by the common appellation, “the dog,” from their filthy, snarling habits. They possessed, undoubtedly, a certain rude wit and virtue, and have left many pointed and pithy sayings, but are of little account as speculative philosophers. They are only named here as precursors of the Stoics.

26. PLATO alone (born at Athens 430 b.c.), in his system of philosophy, truly represented the spirit of his master. Joining him at the age of twenty, and remaining with him some eight years, he fully imbibed his spirit. He was the “beloved disciple,” who sympathetically received the whole spirit of the life and philosophy of his master into the soil of a rich and congenial nature, where it vegetated and brought forth fruit to perfection. But his system, though thoroughly Socratic

in spirit, is a great enlargement of that of his master, and embraces many other elements. After the death of Socrates, he left Athens and spent some twelve years abroad, visiting the different schools of Greek philosophy, and extending his travels even to Sicily and Egypt. He was thus prepared by his extensive acquaintance with different systems, as well as by his comprehensive genius, to survey the whole field of antecedent philosophy from a Socratic point of view, and harmonize the various conflicting views in an enlarged and purified reproduction of the system of his master. Accordingly, on his return from his travels, at the age of forty, he established himself as teacher of philosophy, just outside of the city, upon a small estate inherited from his father, within the enclosure of the public garden or gymnasium, called the Academy, which henceforth became the name of his school. Here he was soon surrounded with a band of disciples, and, with only two considerable interruptions, on occasion of his second and third visits to Sicily, continued his instruction and the preparation of his extensive works to the end of his life, at the age of eighty-one.

27. Plato continued the distinction of the Eleatics and Pythagoreans between the permanent and the phenomenal world, but in a much more fruitful and consistent form. The great aim of the teaching of Socrates, as we have seen, was to establish clear and true conceptions of things in the minds of his pupils. In perfect accordance with this, we find the central principle of the system of Plato to have been, the doctrine of *ideas*, or conceptions objectified, and made real. These were his permanent world, being both the original archetypal forms of things, and the permanent ele-

ment in nature, which alone was perceived, all else being changeable, phenomenal, producing only deceptive sensations. Matter, with him, was a mere *potentia*, or *condition* for the appearance of ideas under a contingent form, its whole reality and perceptibility depending upon its *participation* in the eternal archetypes. The impression made on the organism, or *sensitive soul*, as he called it, by external objects, was not a knowledge of these objects; it was only the apprehension by the reason of the ideal element in the object that was true perception, which apprehension was but a *reviving* ("*reminiscence*") of a knowledge obtained in an antecedent state of existence, when reason stood face to face with being.

28. Professor Butler * thus briefly states the grounds and consequences of the Platonic theory of perception by ideas: "1st, that a true knowledge or communion of reason with the reality of things is ensured by the kindred, or even homogeneous, nature of reason and ideas; 2ndly, that this intimate connection is testified by the impassioned aspiration † of the instructed soul for the perfection to be found only in the ideal world; 3dly, that the great business of the philosophic cultivator of his intelligence, is, by the constant exercise of accurate abstraction, to fit the qualities of sense to represent the everlasting models of the sphere of truth and being; 4thly, that we may well conclude the rational nature of man, formed as it is for ideal conception, to be *eternal* as ideas themselves; and though the sensible world itself is, by the participation of ideas, as perfect as the dull obduracy of its material subject

* Lectures on the History of Ancient Philosophy, vol. ii. p. 147.

† Referring to the Platonic *Eros*, or love for the ideal.

will permit, yet to the philosophic soul it can never appear in any other light than as a restriction to the inborn energies of the spirit, suggesting, indeed, the absolutely good and fair and true, but clouding and concealing the very perfection it suggests."

29. The predominant spirit and aim of the philosophy of Plato is *eminently ethical*. It proposes as its object, the purification of the soul by the contemplation of ideal truth and excellence. The True, the Beautiful, and the Good are all one; or rather, the two former are merged in the latter,—the true and the fair both alike minister to the good. The Good or the Perfect is alike the end of both. The study of truth, therefore, is the study of goodness; and philosophy is the purification of the soul. This is only carrying out to its consequences the doctrine of Socrates, that knowledge is virtue. True happiness, too, was the fruit of philosophy, with Plato, as it had been of virtue or wisdom, with Socrates. Thus philosophy was the chief good with him, but only because it was the pursuit of the Good through the True. Indeed, the Good was the grand end of God himself, both in making the world and in all his acts. The Good determined all his actions, as it should those of men.

30. To borrow again from that admirable expounder of the doctrines of Plato, Professor Butler: * "This principle of Rationality is a direct consequence from the entire scheme of Platonism. The system supposes the original unity of the Beautiful, the Just, and the Good, in the *True*; the True being, as it were, the supporting or substantiating; the Good, the characterizing idea; the Beautiful and Just accompanying both:

* Lectures on the History of Ancient Philosophy, vol. ii., p. 283, seq.

the True being the very reality of things; the Good, the final cause of their being; and the others investing the True out of the strength of that final cause,— for wherever is the *άγαθόν* [the good], there will infallibly be the highest measure of *harmonious proportion*; and proportion is the essential idea of both the Beautiful and the Just. . . . The great requisite of virtue, then, is to gain the intuition of these ideal excellencies; and the original fitness of the soul to meet them is so certain, that it cannot be conceived that it can really apprehend these eternal objects without yielding to their divine attraction. . . . You will not, then, be surprised to find that the perfection, of which virtue is the effort, is by Plato described as *διοίωσις θεῷ*, assimilation to God. This assimilation is the enfranchisement of the divine element of the soul. To approach Him as the substance of truth, is science; as the substance of goodness in truth, is wisdom; as the substance of beauty in goodness and truth, is love."

31. Plato carried the same lofty spirit of speculation into his social, political, and even his physical system. His ideal state is but a community of philosophers, in which rank and authority are determined by wisdom, and the various relations and duties of life regulated by philosophy. Blind custom, superstition and prejudice were no longer to rule, but men, on the one hand, were to be controlled by the restraints of reason, and on the other, to have all the license supposed to be allowed by reason. We are prepared to expect that a social state established on so entirely ideal principles, without any regard to the lessons of experience, and even in contemptuous disregard of their authority, would tolerate extravagances and be marked by de-

fects, similar to those seen in systems conceived in the like spirit in modern times, and even in our own day, which we find to be the case. The Platonic State, with all its lofty ideality, is in substance, a sort of compound of the *despotism* of the Monarchy of Hobbes, and the *license* of the Socialism of Fourier, joined to that of the Mormonism of Brigham Young. His physical system,* too, was wholly ideal, and conjectural. His universe was built up from his imagination, without resort to a single experiment. It was, indeed, professedly but an attempt at ideal world-building, an attempt to draw out an imaginary scheme of things which might represent “the exquisite order and simplicity by which actual results may have been brought to pass,” and thus, “deepen and vivify our notions of the harmony of the universe, and the consequent wisdom and goodness of its Author.”

32. The successors of Plato in the Academy were, first, SPEUSIPPUS, his nephew, then XENOCRATES, POLEMO, CRATES, and CRANTOR (called thus far the Old Academy), and afterwards (to mention only a few of the leading names of the New Academy), ARCESILAUS, CARNEADES, PHILO, and ANTIOCHUS; the two latter con-

* Plato first conceived in order to account for the celestial changes, the system of concentric orbs or cycles, revolving within each other, and bearing on their interior surface the different heavenly bodies. His system embraced but eight such cycles (see the diagramm in Stalbaum's edition of the *Timaeus*, p. 36, n.). Afterwards the number was increased by others, and eccentricities and epicycles added, till it broke down from its cumbrousness. It is to this system that Milton (P.L.B., 8, 83) alludes, as the fruit of the perverse ingenuity of man, which disfigured rather than explained nature:—

“With centric and eccentric scribbled o'er,
Cycle and epicycle, orb in orb.”

temporary with Cicero, who was himself, in the main, an Academician, though with strong *eclectic* tendencies. None of these were men of the lofty spirit and genius of the founder, and hence were unable to maintain the dignity and glory of his school. Incapable of soaring to his knowledge of the ideal, they abandoned it as hopeless. Thus left to the empirical element alone, to mere sense-knowledge, they soon sank into a settled *scepticism** as to the certainty of all knowledge, which they held could never rise above belief or probability. They maintained, against the Stoics, the "representative" theory of perception, and the insufficiency of any impressions or representations, derivable by the mind through the senses from external objects, to the establishment of knowledge. "The impossibility of absolute certainty [says Professor Butler], the value of high probability,—these are the dominant maxims of the Academic philosophy."

33. On the contrary, in NEO-PLATONISM, the outlines of which were first taught in Alexandria by AMMONIAS SACCAS, about two hundred years after Christ, and which subsequently spread to Rome and Athens, the ideal element of Plato was seized upon, and carried out to ruinous excess. Like the genuine Platonism, it held to a knowledge of the absolute, not, however, through the intervention of ideas in the human mind,

* The absolute scepticism of Pyrrho, Timon, Aenesidemus, Sextus Empiricus, etc., was but an exaggeration of the moderate scepticism of the New Academy, and in part, indeed, was historically affiliated with it. Their general doctrine was, that nothing actually existed as it seemed, and that such were the contradictions and perplexities in all pretended knowledge, that the repose necessary to happiness could be found only by maintaining an entire suspension of judgment and all positive assertions about things.

but by a sort of ecstatic absorption of the individual reason into the Infinite Reason, so that it became conscious of whatever that was conscious of. New Platonism was an attempt to construct, on the general basis of Plato's system, a philosophy capable of rivaling and even superseding Christianity. Hence its claim of ecstatic vision and superhuman illumination. But these very pretensions, by which it hoped to become a religion as well as a philosophy, proved its ruin. Its mystic enthusiasm soon degenerated into magic and sorcery and all manner of extravagance.* Thus the direct continuations of Platonism, in both its branches, had failed to realize the fair promise which the system gave as it came from the hands of its author.

34. ARISTOTLE, to go back now to the time of Plato, was the truest representative of his master. He was the son of Nicomachus, an eminent physician of Stagira, in Thrace, and was born 384 b.c. Coming to Athens in his seventeenth year, he soon after became a pupil of Plato at the Academy, and remained such for about seventeen years, till the death of his master. Although pursuing different lines of inquiry from Plato, and coming to quite different results, the central idea and method of his system are plainly traceable to his master. As Plato had developed the purified conceptions and definitions of Socrates into positively existing ideas, apprehended in experience as a reminiscence

* The chief masters of Neo-Platonism were,—at Alexandria, *Iamblichus* and *Hierocles*,—at Rome, *Plotinus*, *Porphyry*, and *Amelius*,—and at Athens, *Plutarchus*, *Syrianus*, *Proclus*, *Marinus*, *Isidorus*, and *Zenodotus*, under which last teacher, in 529, the schools of Athens were closed by an edict of Justinian.

of a previous knowledge, Aristotle reduced these ideas to mere mental *abstractions* elaborated by the reason through the recollections or *reminiscence of actual experience*. In like manner, the Socratic method of *investigation* became one of *demonstration* in his hands, and the *dialectics* of Plato re-appeared as *formal logic* in Aristotle. The "idea," therefore, was no longer an objective reality, but a subjective conception or thought. Still, as he supposed, a valid science of Being might be constructed from such empirical materials by passing them through the alembic of logic. Beginning thus soundly with experience, his philosophy ended in mistaking consistency of formal thought for material truth.

35. On the general question of the relation of the permanent to the phenomenal, Aristotle introduced the distinction of *matter* and *form*. With him, what is permanent in things is the simple, unformed matter or material of which they are composed, while particular, phenomenal objects are that general material under various determinate and appreciable forms. The permanent, therefore, was mere potential being, while the phenomenal was actual being, — existence made actual by the Great Actor and Former of all things. Hence, the permanent and the changing, the infinite and the finite, were but the same general substance, in the one case without, and in the other with, form.

36. Aristotle was an extensive and profound investigator of nearly all the great subjects of human curiosity and interest, as Logic, Physics, Metaphysics, Ethics, Politics, and Rhetoric. He treated all these subjects with a copiousness and precision unattained by any of his predecessors. Instead of the vague poetic style of preceding philosophers, he adopted the most rigidly pre-

cise and technical style, which expressed nothing but his bare ideas, and aimed to establish all his principles by solid arguments. He was unquestionably the most learned and profound of all the ancient philosophers. In him Greek philosophy reached its culminating point, and soon declined through various partial systems, as *Stoicism*, *Epicurianism*, *Scepticism*, and *New Platonism*—of which, the two last-named systems have already been characterized; so that it remains, only, briefly to describe the two former, in order to complete the survey of Greek philosophy.

37. *Stoicism* (so called from the *stoa*, or portico, where it was taught), as already stated, was the rival and antagonist of the New Academy. The two schools were at decided variance on the theory of knowledge, the former holding, though with some vagueness and vacillation, to an intuitive or *immediate* consciousness of external objects in perception, the latter, to only an *inferential* knowledge of them, through the medium of a representative image, somehow received or formed in sensation. The difference, in this respect, between the two schools, seems to have been substantially the same as that between the two branches of the Scotch school, represented, on the one side, by Reid and Hamilton, and on the other, by Brown.* With the one, therefore, knowledge was valid and certain, with the other, only probable. The Stoics stoutly resisted the scepticism of their age, as Reid and his followers did that of theirs.

38. But the predominant aim of stoicism was *ethical*. Their psychology was but a carefully laid foun-

* See his twenty-fifth Lecture, and Hamilton's Review of Reid's Works, *Philosophical Discussions*, p. 38 — 98.

dation upon which they might securely raise the superstructure of their moral system. *Zeno* (of Citium, in the island of Cyprus), who founded the school, came to Athens when a young man, and became a disciple of Crates, of the Cynic school. And though he afterwards attended the school at Megara, and the Academy, he always retained the strong ethical tendency of his first instructors, and something even of their asceticism. In his system, and that of his followers, God was little more than the laws of nature, its formative and actuating soul. To act according to nature, then, was to do the will of God, and hence was the highest virtue. Accordingly, conduct was to be controlled by reason taking a calm and comprehensive survey of the order of nature, and not by impulse or the love of pleasure. Happiness and all external advantages were regarded as mere accidental concomitants of action, not as a real good, or end of nature. The system not only placed happiness below the right, but disregarded it altogether, and endeavored to replace all emotion by a profound indifference and apathy. The great masters of the Stoic philosophy, after the founder, were *Cleanthes*, *Chrysippus*, and later, *Panaetius*, and *Posidonius*.

39. EPICUREANISM, founded and taught at Athens by *Epicurus* (born 342 b.c.), in what was called the Garden, was an exaggeration in the opposite direction. As the Stoics rejected happiness altogether, as an end of life, the Epicureans made it the chief end of life; not, indeed, the happiness of unrestrained gratification, of whatever sort, like the Cyrenaic school, but yet mere happiness, as such. Epicureanism was not a system of mere sensualism or momentary indulgence, but rather

of self-interest. It required a subordination and systematization of the different kinds of happiness, but only as such a course is necessary in order to attain the greatest amount of happiness on the whole. Conduct was to be regulated, but by no higher standard than that of an enlightened self-interest. It recognized no immutable law of right and wrong, and hence left each one to be governed by the wholly uncertain standard of his individual conception of what was for his own good. At the same time, it made happiness consist largely in the absence of pain and care, and hence exempted the gods from all interest or concern in the affairs of men.*

40. These are all the important forms assumed by Greek philosophy during the course of its eventful history. The Socratic movement, with all its fruitfulness and wide-spread influence, had now exhausted itself. Stoicism, Epicureanism, and the Academic philosophy, continued to divide the opinions of men, till they were all, together with that new and more pretentious form of Platonism, already described, superseded and absorbed by the more positive faith of the Gospel. The Greek language and philosophy were carried into the East by the conquests of Alexander, and into the West by the conquests of Rome, but they never became thoroughly naturalized in either of these regions. Stoicism was not without its admirers and disciples in the stern patriots and military classes of Rome, as Epicureanism was not, among her luxurious and self-indulgent classes, and even the Academic philosophy, among

* The physical and psychological views of the Epicureans were merely a further elaboration of the Atomic system of Democritus, which has already been described.

her men of genius and learning, like Cicero; but neither here nor at Alexandria did they receive any new development, except in the single form of New Platonism, which was rather a corruption than a true carrying out of the original system. Neither the stern, imperial West, nor the dreamy, mystic East, was congenial to the true spirit of philosophy.

41. Grecian philosophy had now run its course, and fallen before the onward march of Christianity. But soon thought began again to assert its independence, and demand a reason for the faith of the Church. To meet this demand was the object of SCHOLASTICISM. Seeing her doctrines assailed, the sages of the Church, such as *Anselm*, *Abelard*, *Thomas Aquinas*, and *Duns Scotus* (1034–1308), set themselves at work, from various points of view, to establish the rationality of their creed. For this purpose, they made use of the materials furnished by the antecedent Greek philosophy, and especially of the system of Aristotle, whom they were wont to designate, by way of eminence, “the philosopher,” and who supplied them with their phraseology and chief principles. They elaborated their system with great industry and ingenuity, forming a framework of dialectical subtleties which carried the mind off from the real nature of things, and rather confused than convinced it. After a long and earnest struggle, the attempt at reconciliation finally failed, and religion was left to its own peculiar province, that of the practical reason, which proceeds upon convictions and postulates of its own, while philosophy retained possession of the sphere of the speculative reason, which deals only in conceptions demonstratively established.

42. The downfall of Scholasticism was effected only after the most obstinate resistance, and through the influence of various co-operating causes. Among these were the Revival of Letters from the dispersion of Greek scholars over Western Europe, on the breaking up of the Eastern Empire, the Protestant Reformation, and the advancement of Physical Science under *Copernicus*, *Kepler*, *Galileo*, and *Bacon*. For, though Bacon did not, like the other philosophers here named, devote himself to physical studies and experiments, he drew out in the most imposing and attractive form, the *method* of conducting such studies, and most emphatically and authoritatively asserted the necessity of quitting the barren subtleties of Scholasticism, and returning to the direct study of nature. Other philosophers, as *Bruno* in Italy, and *Boehme* in Germany, promoted the same tendency, though in a more obscure and mystical way. At length, thought was again emancipated, and soon began to evince its independence in commencing the foundations of Modern Philosophy.

43. MODERN PHILOSOPHY begins with *Descartes* (born at La Haye, in Touraine, 1596). Dissatisfied with the results of the philosophy of former ages, he attempted the construction of an entirely new fabric of philosophic thought—a fabric which should be solid and impregnable against all doubt. He starts with the simple consciousness of self-existence. His famous *cogito; ergo sum*, simply asserted his existence as a thinking being, on the ground that he was *conscious of thinking*. That we think cannot be doubted, for to doubt is to think, and hence doubting proves thinking; as far forth as one is conscious of thinking, so far forth he necessarily exists as a thinking being. The

truth of our existence, then, is established beyond cavil. At the same time, the assurance with which we receive this truth becomes a rule for the reception of other truths — we may receive any thing else as true, when we know it with the same clearness and certainty with which we know our own existence. Yet our certainty of any thing out of ourselves wants some further voucher for its actual objective existence besides our *internal* conviction.

44. Here Descartes calls to his aid the idea of God, which he regarded as *innate*, or implanted in us by God himself. And this innate conception of God he held to be such, as to forbid the supposition of his having so made us that we should unhesitatingly receive as true what is really false. Whatever, then, in the legitimate use of our powers of perception and reasoning, we feel forced to receive as true, is so. God is no deceiver, knowledge is no deception. At the same time, Descartes proceeds to deduce from the idea of God, the nature of substance, both material and immaterial, and to build up an entire philosophy of nature. This certainly is making the idea of God a pretty fruitful one, not merely in moral but in philosophical results. Such deductions may appear highly plausible, may indeed possess a high degree of probability, but must be destitute of that demonstrative certainty demanded by philosophy, especially by a system of philosophy which professes to take nothing on trust. This working backward, therefore, to establish truth and existence from the idea of God is unsatisfactory. Indeed, it seems rather crude and credulous to assume the idea of God as innate; though perhaps in this and other cases, Descartes meant by innate, merely that the *form* of the

conception is ready furnished by the mind — that our mental constitution is such that we inevitably conceive things so and so, on experience.

45. According to Descartes, matter possesses the sole property of extension, and mind the sole property of thought. They have nothing in common, but each is the negation of the other. Their intercourse is only maintained *supernaturally* by the intervention of the Deity. The soul is conceived as seated at the centre of the brain, in the *pineal gland*, and as being determined to perception by certain motions produced in that organ by the action of external objects upon the senses. External objects themselves, therefore, are not perceived, nor even the images or motions of them; they are merely, through the *divine assistance*, the occasions* of perception. Mind and matter were thus clearly distinguished, — more so, perhaps, than in any antecedent system, — but, at the same time they were made so independent of each other as to render it difficult to conceive how the intercourse between them was to be maintained.

46. MALEBRANCHE (born at Paris, 1638), a zealous Cartesian, feeling the difficulty of mediating between mind and matter according to his master's view, sought a medium of perception in which the opposition between them should be overcome. Such a medium he found in God himself. Instead of calling in the *intervention* of God in perception, like Descartes, he transferred human perception wholly to him as a medium. God as the absolute substance, from which all other

* This was virtually Descartes' doctrine of perception, though the doctrine of *Occasional Causes* was explicitly drawn out only by his disciples *De la Forge*, *Geulinx*, etc. See Wight's Hamilton, p. 205, note.

substances are derived, was regarded as containing all things ideally in himself. Nature, thus spiritualized in God, might be perceived by spirit, and was actually brought into relation to our spirits by the all-embracing presence of God. God, in whom all nature was realized, was at the same time the place of souls. Thus we know and see all things in God.*

47. SPINOZA (born at Amsterdam, 1632), commencing an earnest student of Descartes, soon abandoned as hopeless the task of mediating between mind and matter on Cartesian principles, and boldly transferred the *thought* and *extension*, by which Descartes characterized mind and matter respectively, to a single subject. Indeed, thought and extension, in his system, are but correlative qualities, the one subjective and the other objective, if not, indeed, merely the opposite sides of the same quality, as apprehended by the human understanding. All finite, phenomenal objects are but modes of this infinite substance, related to it as waves are to the ocean. In man and other finite intelligent beings, the general thought of God comes to a distinct unity of consciousness, as his extension is developed into distinct forms in different material objects. The world in all its forms, and in all its aspects of thought, life, change, and motion, is but the unfolding of God according to the necessities of his own nature. Thus

* Arnauld, a contemporary and fellow-countryman of Malebranche, was also a distinguished cultivator of the Cartesian philosophy. But he contributed nothing towards the mediation of mind and matter, which was the chief difficulty in the system of his master. Indeed, as he does not seem to have held to an immediate perception of external objects, his discarding all mediating ideas derived from these objects — important as the step was in itself — rather increased than relieved the difficulty.

all proper personality and moral character are destroyed in both man and God.

48. The main positions of his system are thus briefly stated by Lewes : " There is but one infinite Substance, and that is God. Whatever is, is in God ; and without him nothing can be conceived. He is the universal Being, of which all things are the manifestations. He is the sole Substance ; every thing else is a Mode ; yet without Substance, Mode cannot exist. God, viewed under the attributes of Infinite Substance, is the *natura naturans*,—viewed as a manifestation, as the Modes under which his attributes appear, he is the *natura naturata*. He is the cause of all things, and that immanently, but not transiently. He has two infinite attributes—Extension and Thought. Extension is visible Thought, and Thought is invisible Extension : they are the Objective and Subjective of which God is the Identity. Every *thing* is a mode of God's attribute of Extension ; every *thought*, wish, or feeling, a mode of his attribute of Thought. Substance is uncreated, but creates by the internal necessity of its nature. There may be many existing things, but only one existence ; many forms, but only one Substance. God is the '*idea immanens*'—the One and All." These points are established by a most rigid course of demonstrative reasoning, proceeding by definitions, axioms, proposition, etc., after the manner of geometry. And here precisely is the ground of his error. Mathematical reasoning develops only the contents and relations of quantitative conceptions, not the nature of being, or the reality of things.

49. The next independent attempt at philosophizing was made by JOHN LOCKE (born at Wrington, 1632),

the founder of English philosophy. His philosophy is of the empirical sort, and decidedly materialistic in its tendency. He had been preceded in the same line by his fellow-countryman, THOMAS HOBBES,* but only in a random, fragmentary way. Locke's fundamental principle is, that the mind of man starts with nothing, and ends with nothing, except what it derives either directly or indirectly from experience,—that it has merely the power of receiving, retaining, and combining what is given in experience. All its treasured knowledge, when analyzed, is resolvable into ideas of sensation and ideas of reflection; i.e., into the ideas which are given directly in the perception of external objects, and those which arise in the mind from the contemplation of these. Starting with this principle, it is the great business of his philosophy to reduce all knowledge to these two classes of ideas, which he attempts to do by an elaborate analysis of the contents of the mind.

50. The defects of such a system are obvious. If the mind imparts nothing in perception, if it be wholly dependent upon experience for its knowledge, then it is altogether a subordinate power, determined wholly from without. Besides, how can knowledge be verified if there be not some fixed principles of thought—some necessary laws of thought or modes of conception, to which we can appeal as attesting the validity of our experience? If the mind does not itself conceive some things as being *necessarily* so and so, there are no starting-points to knowledge, and every thing may be doubted. And that there are such primary principles

* Hobbes is chiefly known as a psychologist by his theory of the Association of Ideas.

of knowledge is often unconsciously admitted by Locke himself; as where he admits that it is illegitimate to dispute whether a thing can "both be and not be," and allows that we have an idea of substance, though it clearly is not and cannot be known by experience. A system so partial could hardly fail of soon being carried out to its absurd consequences, which was actually done, and that in two different directions.

51. In its most obvious tendency towards materialism, while it was universally tolerated, and in some instances even exaggerated, by contemporaneous and succeeding English philosophers, as *Newton, Clarke, Willis, Hook, Hartley, Darwin*, etc., it was taken up with enthusiasm in France by *Condillac, Helvetius, La Mettrie, Diderot, Holbach, Lagrange* (1715–1770), and the other writers who brought on the corruption in morals and the disorganization in society which ended in the French Revolution. While Locke referred all ideas to sensation and reflection, Condillac referred them all, and even the very faculties of the mind themselves, to sensation, thus converting his Empiricism into Sensualism; and Helvetius merely drew the practical consequence of this theoretical doctrine, that sensuous pleasure and pain are the only, and consequently the highest, stimulants or motives to action. La Mettrie, and the Encyclopedists and writers of the System of Nature, further elaborated these vile principles, and carried them out with shameless audacity and particularity to their legitimate consequences, the denial not only of all morality and religion, but of the very existence of God, as well as of the spirituality and immortality of the soul.

52. But Locke's philosophy, by the most opposite

tendencies, led not only to materialism, but to idealism, as well. Its empirical character, while it made it materialistic in substance, made it subjective in principle. It contained no valid assertion of the existence of the external world. By denying to the mind authoritative principles of knowledge and necessary modes of conception, as well as a direct consciousness of external things, it virtually denied all real knowledge of outward objects, and the validity of all such general conceptions as those of Cause, Time, Space, etc. GEORGE BERKELEY, therefore (born at Kilkirin, Ireland, 1684), in order to avoid the materialistic and atheistic tendencies of his system, wholly rejected matter as an independent existence, denying all objective reality to external objects — making them merely a succession of internal ideas *produced in us by the Will of the Creator.**

53. On the other hand, DAVID HUME (born at Edinburgh, 1711), gladly accepting the empirical nature and subjective tendencies of Locke's system, carried it out to its last consequences, in the denial of a substantive existence not only to matter, but to mind also, as well as all general abstract ideas, and particularly that of causation. Holding with Locke and Berkeley, that all our knowledge comes of experience, and that in experience nothing is known beyond the ideas themselves begotten in the mind, which cannot be copies, or in any way adequate representations, of

* Berkeley stoutly asserts that his system accords with the vulgar belief; that the common mind in perception, thinks it perceives, and consequently believes in the existence of, only a combination of mental affections. But this is evidently the very reverse of the fact. The common mind, far more than that of the philosopher, adheres to an external reality as the cause of perception and the substratum of the qualities perceived. It cannot believe, whatever the philosopher may do, that pumpkins and melons are merely alternately developing and decaying *ideas.*

external things, he denies all *knowledge* of substance, whether material or immaterial, or of causation, whether physical or spiritual. He admits, to be sure, a universal and unavoidable *belief* in these, but regards it as a blind instinct, or prejudice, generated by habit. He regards our idea of material substance as wholly generated by our various sensations of the so-called material qualities ; our idea of self, by many rapidly succeeding states of consciousness ; and our idea of causation, by association, or the habit of seeing one event follow another.*

54. While the philosophy of Locke was being carried out to its consequences in England and France, the gifted and comprehensive genius of LEIBNITZ (born at Leipsic, 1646) was elaborating a highly original and ingenious system, opposed on the one hand,—by the assertion of native and necessary forms of thought,—to the empiricism of Locke, and on the other, to the lifeless and characterless pantheism of Spinoza. An accomplished scholar and versatile courtier, he spent a large part of his time in the varied duties of diplomacy, pursuing philosophy only at intervals, and published his views mostly in a fragmentary form, and frequently in the French language. His most considerable works are the Théodicée, the Monadology, and the Nouveaux

* These, clearly, are but the just conclusions from a philosophy which holds that perception is wholly representative, and that “there is nothing in the intellect which is not first in the senses.” They can be avoided only by vindicating a direct perception of external objects, and the existence in the mind, as an original endowment from the Creator, of necessary forms of thought, according to which we mould our experience ; that the mind is so made, that it cannot perceive qualities without ascribing them to a something to which they belong ; nor change without ascribing it to a causative power.

Essais, the first chiefly theological, and the other two metaphysical.

55. Like Spinoza, Leibnitz holds to the existence of but one general substance; yet not to a dead, characterless, indeterminate substance, but to one full of activity and life, and distributed among an infinite number of individual beings, specifically differing from each other in quality. At the same time, this substance is wholly ideal, being deprived of all real extension, and made up of mere metaphysical points instinct with life. Each of these points is a *monad*, or distinct individual, differing from every other in quality, while they all alike, and each by a spontaneous activity, represent or mirror in themselves the universe. In inorganic matter, the representations are so numerous and confused that they do not come to a unity of consciousness; in the vegetable world, the representative activity of the monads rises to a formative vital force; while in animals, the representative activity rises to an obscure consciousness,—and in man, to a distinct consciousness.

56. All substance, then, is either distinctly or confusedly intelligent. The mind of man is distinctly intelligent, his body only confusedly so. And yet by a *pre-established harmony* they are always in perfect correspondence with each other. The monads of the body always represent exactly the same things as those of the mind, the one mechanically, the other consciously, so that they are always in exact harmony; like two time-pieces, moved by mechanism of the same pattern and from the same master-hand. But the body has no influence upon the mind, nor the mind upon the body,—they simply run together. Our knowledge, there-

fore, is not mere sense-knowledge. It does not come from without, but is produced from the mind itself. All ideas are innate, in the sense that they are always *potentially* in the mind. With much that is fanciful in this system, there is much that is substantial, and forms the basis of the most approved philosophy of the present day, especially the assertion of native forms of thought, potentially in the mind antecedent to experience.

57. It was on the general basis of the philosophy of Leibnitz that CHRISTIAN WOLF (born at Breslau, 1679) reared his elaborate system of metaphysics. He did not, however, so much develop to their completeness the fragmentary but highly fruitful germs of thought thrown out by this great philosopher, as attempt from existing materials, to construct a comprehensive system of philosophy according to his general principles. Hence, while he retained the same idealistic view of things as Leibnitz, he kept his peculiar theory of nature quite in the background. After the fashion of the times, he endeavored to embrace in his system all the great problems of existence, both real and possible. His philosophy was both theoretical and practical, including logic, metaphysics, and ethics. Under metaphysics was embraced Ontology, or the necessary conceptions under which things are known, and which were thought to apply not only to phenomena, but to things in themselves; Cosmology, or the conception of the world in its cause, beginning, composition, parts, etc.; Rational Psychology, or the conception of the soul as a simple, immaterial, unchanging substance and self-conscious personality; and Speculative Theology, or the conception of a Supreme Being as the highest con-

dition of the possibility of all things. His system, comprehensive in plan, and drawn out with mathematical precision, though mistaking formal for material truth, was highly esteemed in Germany, and remained the dominant philosophy till it was overthrown by Kant.

58. We have now arrived at a point in the history of philosophy, where the stream of speculation, already many times interrupted and divided for a season, separates into two independent and diversely flowing currents, which have continued their divergent courses to the present time. The philosophy of Locke, which had ended in materialism in France, had by a reaction ended in idealism, first in England and now in Germany. The whole movement having issued in an exaggerated and one-sided view of things, it was inevitable that the philosophical faculty would seek some new point of departure and new principles of procedure, in order to reach a more satisfactory result. Such was actually the case, and that, too, at about the same time, in the two most widely removed centres of philosophical speculation, — Scotland and Germany. And not only so, but the impulse, in both cases, came from the same source — the scepticism of Hume. *Reid* and *Kant* were contemporaries, and according to the testimony of each left on record, were independently incited by the sceptical conclusions of Hume, to attempt the reconstruction of the fabric of knowledge on a new and safer foundation. And not only so, they both appealed to the same general principles of certitude — the original instincts or conceptions of the soul, though with different degrees of distinctness and consistency, and, as we shall see, with almost opposite results. We

will first briefly trace the German and then the Scottish movement, which will complete the abstract proposed.

59. The philosophy of KANT (born in 1724, at Königsberg, Prussia, where he was teacher and professor of philosophy in the university about forty years) appeared in the form of several distinct *critiques*, and is known as the Critical Philosophy. Instead of starting, as had been the fashion, with some single principle (as the *cogito ergo sum* of Descartes, or the *monads* of Leibnitz) and deducing his system from this, he starts with a criticism of the principles of knowledge, with an analysis of its conditions, in order to ascertain its possibility and limits, and mete out its domain. His philosophy, therefore, is partly destructive and partly constructive. His criticism is designed not only to clear away the dogmatic rubbish, but to disclose the genuine foundation-principles of knowledge. The result of his criticism is, that the strictly metaphysical sciences, Ontology, Rational Psychology, Speculative Theology, etc., are based upon mere assumptions, and hence, that philosophy is restricted to the sphere of the phenomenal. The unconditioned cannot be known, but only the conditioned. Our notions of a psychical, a cosmological, and a theological unity, which he calls the *ideas of reason*, are mere regulative principles for simplifying and systematizing our knowledge, not real constitutive principles of knowledge.

60. But, at the same time, he holds, against Locke and Hume, to fundamental judgments or forms of conception, by which all our experience is connected and moulded. By an inner necessity of our thinking, we not only posit every thing in *time* and *space*, but necessarily think of things under the forms either of

unity, plurality, totality; reality, negation, limitation, substance and quality, cause and effect; possibility, actuality, necessity. These are his famous Categories of Thought, or *a priori* Conceptions of the understanding. As necessary *forms* of thought they have a universal validity, but, being in themselves wholly empty, they become valid synthetical judgments only as they are filled by the matter of experience — by actual intuitions or perceptions. While, therefore, Kant connects together the fabric of knowledge by the cement of general principles, and thus saves it from falling asunder, he so dispossesses this fabric of all objective reality, as to render it little more than a fairy castle, a mere phantom of the mind. Thus, even Kant, with all the solidity and masculine vigor of his mind, remained true to the ideal character of his nation, and made knowledge virtually subjective.

61. Not that he actually denies objective existence to things. Indeed, he verbally, at least, holds on to their objective existence, and all along supposes them the cause of sensations. He nowhere clearly draws the inevitable conclusion of his philosophy. After resolving space and time into mere subjective conditions of thought, and denying any thing more than a moulding and regulative authority, respectively, to the conceptions of the understanding and the ideas of reason, he makes a labored effort to save, at least, the existence of God, and the freedom and immortality of the soul, from the effects of his destructive criticism. This he does on the authority of the *Practical Reason*, or conscience, which, as undetermined from without, demands with authority a perfect moral law, a perfect virtue, and a perfect happiness; involving, respectively, the neces-

sity for the freedom of the soul (will), the immortality of the soul, and the being of God.

62. The appearance of Kant's *Critique of Pure Reason* (in 1781) at once created an epoch. It is unquestionably the most important event which has occurred in the history of modern philosophy. Not so much from the amount of absolute truth which it contains, as from the almost new phase of speculation which it exhibits, and the surprising depth, thoroughness, and comprehensiveness with which the discussion is conducted. It turns up a hitherto almost unknown and quite unexplored side of things. Notwithstanding the extreme abstractness and rigor of its principles, and the appalling difficulties of its terminology, it swept every thing before it in Germany, and has greatly influenced the direction and tone of philosophical speculation, in all civilized countries, ever since. It was soon adopted by all the ablest teachers in the different German universities, most of whom confined themselves to expounding its doctrines in a more popular form, and supplying its deficiencies, while only a few set themselves either decidedly to oppose, or positively to develop and carry out, the system. Of these, only *Jacobi*, *Herbart*, and *Fichte* need here be named.

63. FREDERIC HENRY JACOBI (born at Düsseldorf in 1743, and during the latter part of his life President of the Academy of Sciences in Munich) was a man of fine genius and of rich and varied culture, with a strong dash of the poetic in his nature. It was inevitable that a mind so gifted, and sentimental withal, should be repelled by the cool destructiveness of a critical philosophy which annihilated all the most cherished objects of sentiment and faith, or at most, allowed them

only a doubtful existence, as postulates of the practical reason. Accordingly, he grounds his philosophy on immediate instead of mediate knowledge ; on faith and feeling, instead of conception and discursive thinking, which were the basis of the Kantian philosophy. As he holds to an immediate apprehension of external objects by sense, so he holds to an immediate apprehension of supersensible objects by reason ; and that, in each case, these primary apprehensions manifest themselves as irresistible *beliefs* or *feelings* that things are so and so. As conceiving is but conditioning (he reasons) we can never reach the unconditioned or infinite by discursive thinking, and all metaphysical philosophy is impossible, unless rational beliefs or feelings be taken as the deepest and most veritable cognitions of which we are capable.*

64. JOHN FREDERICK HERBART (born at Oldenberg, 1776) was Kant's successor at Königsberg, and is introduced here before Fichte, though chronologically subsequent to him, because he completes the development of the Kantian philosophy on one side, which was continued from Fichte, on the other, by Schelling and Hegel. His system is a somewhat peculiar and unfruitful carrying out of the realistic or empirical side of the philosophy of his predecessor. In his system knowledge is only of the given ; it cannot transcend experience as a basis. Even the conceptions of the understanding and the ideas of reason are based on realities, and it is the business of philosophy, not to deny their validity on account of the contradictions which they contain, as did Kant, but to *remodel* them

* In like manner, Herbert Spencer regards *belief* as our deepest cognition. See his *Principles of Psychology*, chap. ii.

so as to free them of contradictions. He attempts such a purification of conceptions through his doctrine of "reals," in which he assumes all substances to be composed of simple, unextended monads, differing from each other in quality, and affecting each other by action and reaction. Every substance, therefore, has just as many primitive and independent *reals* as it has qualities, and hence the contradiction between oneness in substance and multiplicity in phenomena disappears. So, too, a substance changes only by a shifting *to and fro* of the reals, or by the interaction among them from a mutual effort at "self-preservation;" which interaction, on the principle of "accidental views," may, on the one side, be said really to change, and on the other, not to change, each other. In like manner, the antinomies of motion may be solved on the principle of "intellectual spaces," according to which reals may be said on the one hand to be *together*, and on the other, to be *separated*. And thus of other ontological questions. The soul, however, is a *simple real*, and its acts but attempts at self-preservation against the encroachments of other objects. Herbert's doctrine of *reals*, it will be perceived, is quite similar in its general features to the atomic theory of Democritus.

65. JOHN GOTTLIEB FICHTE (born at Rammenau, 1762), a man of extraordinary independence and acuteness of mind, was appointed professor of philosophy at Jena in 1793, afterwards (in 1805) at Erlangen, and finally, dean and rector of the new university in Berlin, where he died in 1814, in the fifty-second year of his age. His starting-point was the philosophy of Kant, which he regarded as virtually a system of idealism, and stoutly contended that he was right in interpreting

it as intentionally such, until publicly contradicted by Kant himself. There can be no doubt, therefore, that he was wrong as to the intention of Kant to construct a system of idealism ; but that it is virtually so, must be quite as evident to every careful reader of his Critique. At any rate, such was it understood to be by Fichte and such has it proved to be in its effects.

66. Kant having made perception a synthesis of subject and object, the mind contributing one part and the external object another, towards the general result, Fitchte advanced a step further, and declared perception and thought in general to be *wholly* an act of the mind, without the concurrence or co-operation of any thing external. As all thought is necessarily subjective, he found no warrant for assuming the existence of any thing out of the mind ; nor any necessity for it, indeed, since all the phases of experience and thought might be easily accounted for on ideal principles. The mind is active in its nature, and in acting, it necessarily assumes something acted upon, or co-operating with it in the act — every mental act involves at the same time a *self* and a *not self*, a subject and an object. In perception, one necessarily affirms a self and a not-self as *relatives in thought*, but nothing beyond this. Besides, the different categories of thought are only the different *relations* which the subject and object may be conceived as holding to each other. External objects, then, are only objectified thoughts, or rather, that self-imposed limitation of thought by which alone we become conscious, or have any thoughts at all. Thus we make the external world by our internal activity. Self and its representations constitute the universe. Even God is nothing more than the abstract Moral Order of things.

67. Such is a hint of the character of the subjective or egoistic idealism of Fichte, of which Sir W. Hamilton says,* that it is “developed with the most admirable rigor of demonstration,” and is “the purest, simplest, and most consistent which the history of philosophy presents.” And yet it ends virtually in *nihilism*. “The sum total,” says Fichte (quoted by Hamilton), in summing up the result of his theoretical philosophy, “is this: There is absolutely nothing permanent either without me or within me, but only an unceasing change. I know absolutely nothing of any existence, not even of my own. I myself know nothing, and am nothing. Images there are: they constitute all that apparently exists, and what they know of themselves, is after the manner of images,—images that pass and vanish without there being aught to witness their transition; that consist in fact of the images of images, without significance and without an aim. I myself am one of these images; nay, I am not even thus much, but only a confused image of images. All reality is converted into a marvellous dream, without a life to dream of, and without a mind to dream; into a dream made up only of a dream of itself. Perception is a dream; thought—the source of all the existence and all the reality which I imagine to myself of *my* existence, of my power, of my destination—is the dream of that dream.”

68. FREDERICK WILLIAM JOSEPH SCHELLING (born at Leonberg, 1775), beginning his career as a speculative philosopher while yet at the university (at Tübingen), became, on leaving the university, a student and teacher of Philosophy at Jena, in conjunction with

* Wight's Hamilton, p. 24, note.

Fichte, and afterwards, professor of philosophy, first at Würzburg (in 1803) and then at Munich. In his philosophizing he started with Fichte, but soon passed far beyond him in the wild pursuit of the absolute. He accepts, with Fichte, the identity of subject and object, but unlike him, makes them perfectly coördinate and equally real. The object is no longer produced from the finite subject, but both alike are produced out of the infinite subject—*the absolute*. Human souls are but separate centres of consciousness in the absolute, in universal Nature; and the experience of life, in all of which subject and object figure as the opposite poles, is but the outworking of the Infinite. Ordinary experience or consciousness is possible only through the contrast of subject and object; but in the higher, and indeed, impersonal clairvoyance of *Reason* or the *Intellectual Intuition*, the contrast disappears, as polarity does at the *indifference-point* of the magnet, and subject and object, knowledge and being, become absolutely one. Schelling, in short, was a pantheist, with a peculiar theory of knowing the absolute. Further to illustrate the views of a philosopher, so subtle and occupying so important a position in the history of recent speculations in Germany and other countries, I transfer to my pages a few luminous paragraphs, descriptive of Schelling's system, from Sir W. Hamilton's celebrated review of *Cousin*.

69. This admirable critic thus sets forth and canvasses his chief positions: "While the lower sciences are of the relative and conditioned, Philosophy, as the science of sciences, must be of the *absolute*, — *the unconditioned*. But how, it is objected, can the absolute be known? The absolute, as unconditioned, identical,

and one, cannot be cognized under conditions, by difference and plurality. It cannot, therefore, be known if the subject of knowledge be distinguished from the object of knowledge; in a knowledge of the absolute, existence and knowledge must be identical; the absolute can only be known, if adequately known, and it can only be adequately known by the absolute itself. But is this possible? We are wholly ignorant of existence in itself: the mind knows nothing, except in parts, by quality, and difference, and relation; consciousness supposes the subject contradistinguished from the object of thought; the abstraction of this contrast is the negation of consciousness; and the negation of consciousness is the annihilation of thought itself. The alternative is therefore unavoidable; either finding the absolute, we lose ourselves, or retaining self and individual consciousness, we do not reach the absolute.

70. "All this Schelling frankly admits. But he contends that there is a capacity of knowledge above consciousness, and higher than the understanding, and that this knowledge is competent to human *reason*, as *identical with the Absolute itself*. In this act of knowledge, which, after Fichte, he calls the *Intellectual Intuition*, there exists no distinction of subject and object,—no contrast of knowledge and existence; all difference is lost in absolute indifference,—all plurality in absolute unity. The Intuition itself—Reason—and the Absolute are identified. The absolute exists only as known by reason, and reason knows only as being itself absolute.

71. "It would be idle to enter into an articulate refutation of a theory, which founds philosophy on the

annihilation of consciousness, and the identification of the unconscious philosopher with God. The intuition of the absolute is manifestly the work of an arbitrary abstraction, and of a self-delusive imagination. To reach the point of indifference,— by abstraction we annihilate the object, and by abstraction we annihilate the subject, of consciousness. But what remains? *Nothing*. ‘*Nil consimus nobis*.’ We then hypostatize the zero; we baptize it with the name of *Absolute*; and conceit ourselves that we contemplate absolute existence, when we only speculate absolute privation.

72. “To Schelling it has been impossible, without gratuitous and even contradictory assumptions, to explain the deduction of the finite from the infinite. By no *salto mortali* has he been able to clear the magic circle in which he had enclosed himself. Unable to connect the unconditioned and the conditioned by any natural correlation, he has variously attempted to account for the phenomenon of the universe, either by imposing a necessity of self-manifestation on the absolute, i.e., by conditioning the unconditioned; or by postulating a fall of the finite from the infinite; i.e., by begging the very fact which his hypothesis professed its exclusive ability to explain.”

73. And still further, briefly to indicate at this point, in the words of the same author, the relation of the system of Schelling’s great French disciple, Victor Cousin, to that of his master: “Cousin and Schelling agree, that as philosophy is the science of the unconditioned, the unconditioned must be within the compass of science. They agree, that the unconditioned is known and immediately known; and they agree that intelligence, as competent to the unconditioned, is im-

personal, infinite, divine. But while they coincide in the fact of the absolute, as known, they are diametrically opposed as to the mode in which they attempt to realize this knowledge. Cousin declares the condition of all knowledge to be plurality and difference; and Schelling, that the condition, under which alone the knowledge of the absolute becomes possible, is indifference and unity. The one thus denies a notion of the absolute to consciousness; whilst the other affirms that consciousness is concerned in every act of intelligence."

74. GEORGE WILLIAM FREDERIC HEGEL (born at Stuttgart, 1770), an early friend and college chum of Schelling, at Tübingen, was subsequently professor of philosophy at Jena, at Heidelberg, and at Berlin, where he died in 1831. Starting from the stand-point of Schelling, he reduced his system to order, and carried it out to its last logical consequences. Schelling, while assuming the identity of subject and object *at the point of indifference*, had yet assumed the reality of both poles. Hegel, on the contrary, abolishes alike the reality of both poles, and admits only the reality of their *relation*. The equipoise of subject and object thus becomes a mere *abstract relation* of the two. The Indifference Philosophy becomes the Absolute Philosophy, and the Intellectual Intuition only Logical Conception. For, not only are subject and object absolutely one, but being and non-being, light and darkness, and all other contraries and contradictions. Indeed, the fundamental principle of his system is, the *identity of contraries*. All possibility of contradiction is thus avoided, and the way opened for the wildest revelry of thought. Philosophy becomes the possible in thought, with the principle of contradiction eliminated. Theoretically, his system

is the evolution of such a system of thought, while practically, it is the application of it to nature, life, opinion, history, etc., i.e., the explanation of the apparent world, and course of events, according to such abstract and fantastic forms of thought. In such a system, nature, man, and even God, can be only an evolution of the absolute, and in the last analysis, only a *process of thought*, a *nothing*, in short. Here we have Absolute Idealism, following upon the Objective Idealism of Schelling, as that had followed upon the Subjective Idealism of Fichte.

75. With Hegel the German movement closes. He seems to have pushed Idealism to its utmost limits, rendering any further development impossible; at all events, there has been no further development since his time. And if, now, having traced this movement to its close, till it has "vanished in thin air," we return again to Hume, to trace in few words the Scottish line of speculation, we shall find a movement of a very different order, and of a much more sober and hopeful character. The Scotch school of philosophy was founded by *Thomas Reid* (born at Strachan, 1710, and successively professor of philosophy at Aberdeen and at Glasgow), and has embraced a succession of able men but of these only two besides the founder are of sufficient importance to deserve particular mention in a mere abstract of the history of philosophy—*Dugald Stewart* and *Sir W. Hamilton* (both professors of philosophy at Edinburgh). While Reid originated the system, Stewart illustrated and rendered it attractive, and Hamilton perfected it. Reid and Stewart are generally at one in doctrine, it is only in Hamilton that we find any considerable advance upon the founder.

76. The general principles of the school are thus admirably stated by Hamilton in his review of Cousin : “ In Scotland, a philosophy had sprung up, which, though professing, equally with the doctrine of Condillac, to build only on experience, did not, like that doctrine, limit experience to the relations of sense and its objects. Without vindicating to man more than a relative knowledge of existence, and restricting the science of mind to an observation of the fact of consciousness, it, however, analyzed that fact into a greater number of more important elements than had been recognized in the school of Condillac. It showed that phenomena were revealed in thought which could not be resolved into any modifications of sense, external or internal. It proved that intelligence supposed principles, which, as the *conditions* of its activity, cannot be the *results* of its operations ; that the mind contained knowledges, which, as primitive, universal, necessary, are not to be explained as generalizations from the contingent and individual, about which alone all experience is conversant. The phenomena of mind were thus distinguished from the phenomena of matter ; and if the impossibility of materialism was not demonstrated, there was at least demonstrated the impossibility of its proof.”

77. These primary principles of knowledge or forms of thought native to the human mind, Reid called “ principles of common sense,” and hence the Scotch school of philosophy has usually been denominated the School of Common Sense. As regards perception, or the nature of our knowledge of external objects, which is the grand distinguishing feature of all systems of philosophy, the Scotch metaphysicians are Natural

Realists. They hold to an immediate knowledge of external objects, without the intervention of any mediating mental representation or idea. This doctrine was intentionally, though not in all respects consistently, held by Reid and Stewart, and has been fully and consistently carried out by Hamilton.

78. According to Hamilton, the mind, present in all parts of the organism, or at least at its central terminations, is directly conscious of the affections of that organism, through corresponding affections of its own, and, in the mutual oneness of these affections, apprehends the body as something extended. At the same time, through our power of locomotion, and the resistance to this locomotion which we meet with in our experience, we become conscious of the existence of objects exterior to our bodies, which also become known as extended objects, by the impressions which they make on our organism, already known as extended.

79. But as the principles of the Scotch philosophy are well known in this country, and form the general basis of the preceding treatise, nothing further need be said on the history of this school. And having thus completed the abstract of philosophy which I intended; having traced in outline — distinct, I hope, though meagre — the wayward course of speculation from the earliest times to our own, I leave the subject, trusting that the bare sketch here presented, will prove sufficient to stimulate the curiosity of the student to pursue in detail a department of history so interesting and fruitful.

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